



SMART REGULATION FOR OTT GROWTH

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EXECUTIVE SUMMARY

Internet content, applications, and services are developing rapidly, providing unprecedented benefits to consumers, driving economic growth, and supporting the free flow of information. Today, entry barriers to the creation of new services delivered online—or “over the top” (OTT), a term more commonly used by regulators—are lower than in traditional media and communications markets.¹ This has enabled vigorous competition and innovation across markets. Some, however, have suggested subjecting OTT providers to licensing and regulatory obligations similar to those imposed on traditional network operators. This paper argues that such an approach would have unintended negative consequences on the broader Internet ecosystem, including on technologies that do not yet exist.

OVERARCHING REASONS FOR NOT IMPOSING TRADITIONAL REGULATORY FRAMEWORKS OR ADDITIONAL REGULATIONS ON OTTs

OTTs are an essential—and increasingly important—element of the broadband value chain. Innovation in OTTs has led to a rich and diverse Internet, and has stimulated consumer demand for broadband Internet access, which in turn is a key driver for network operators to upgrade and expand their networks. Any attempts to impose additional regulation on OTTs would create business uncertainty and lower economic growth and investment. Ambiguous, unnecessary or misapplied rules will harm innovation and pose significant jurisdictional challenges for enforcement.

- **Potential harm to the global Internet and innovation.** Because the Internet is inherently global, regulation in even one country can adversely impact innovation, economic growth and the availability of services, particularly because it can start a trend in which other countries also impose rules in order to protect their own operators or users (i.e., censorship). This trend risks fragmenting the global Internet, resulting in irrevocable harm to the Internet’s openness and innovation.
- **Jurisdictional challenges would make compliance and enforcement difficult.** The international, borderless nature of the Internet means that compliance and enforcement of national OTT regulation would be difficult, if not impossible, to achieve. OTT providers often do not have control over who accesses their applications and where those users are located. To monitor and limit users’ access to OTTs would impose significant costs on governments and providers, and could also severely threaten basic human rights, including freedom of speech and expression.

ADDITIONAL REGULATION IS NOT NEEDED TO “LEVEL THE PLAYING FIELD”

One of the main arguments that proponents of additional OTT regulation make is that more rules on OTT providers are necessary in order to “level the playing field” due to OTTs gaining an unfair market advantage because they do not pay telecommunications sector regulatory fees or taxes, are not required

¹ Various terms are used to refer to OTT content, applications and services, including Internet platform, Content & Application Provider (CAP) and digital platforms. This paper uses the term OTT because it is most commonly used, but recognizes that the term OTT refers to the method of delivery only, and may not fully capture the technical aspects of other terminologies.

to provide the same level of service quality and do not incur significant costs related to telecommunications regulatory compliance. The basic premise of this claim, however, is not generally accurate, because OTTs providers arguably *do not* offer the same services as traditional operators.² They do not control “critical infrastructure” and face a much more competitive marketplace than traditional operators. In addition, OTT services are inherently global in nature, compared to traditional telecommunications services that are offered on a country-by-country basis. OTTs are also increasingly symbiotic with traditional telecommunications providers as new OTT services grow consumer and business demand for data communications, and as telecommunications providers invest in OTT services themselves to bring innovation and further develop the Internet ecosystem. Thus, rather than impose outdated and unnecessary regulatory obligations on OTT providers in an effort to force regulatory parity, policymakers should instead consider eliminating or streamlining regulatory obligations on network operators in order to promote investment, innovation, and access to broadband.

OTTs ARE NOT FREE RIDERS AND SHOULD NOT BE REQUIRED TO PAY OPERATORS TO USE NETWORKS

The free rider/cost sharing argument is based on the inaccurate notion that, because OTT providers must use operators’ networks to deliver their services, they are “getting something for nothing,” while network operators bear all costs with no compensation. This is simply not true:

- Many OTT providers invest heavily in infrastructure, and pay a fair price for the hosting and bandwidth services necessary to deploy their content. These payments benefit the entire Internet ecosystem, including network operators.³
- OTTs *increase* the value of operators’ networks and contribute to their growth by creating and offering content that boosts demand for broadband services. As consumers use more bandwidth-intensive OTTs, such as video streaming, cloud services and video conferencing, they must pay for higher tiered services, in terms of faster speeds and greater amounts of bandwidth, which operators price at a premium.
- Imposing a “cost sharing” obligation on OTT providers would only stifle the development of new and improved content, applications, and services. The additional costs of doing business would be overly burdensome for well-established OTT providers, and would likely be insurmountable for start-ups.

Policymakers should resist the temptation to implement regulations with the intention of protecting the revenues of any particular entity, as such efforts are not conducive to promoting consumer welfare and overall economic growth, both of which would suffer from regulatory constraints placed on OTT providers.

² Note that it is necessary to differentiate between pure OTT VoIP and messaging apps (e.g., GoogleTalk, FaceTime, Viber and WhatsApp) and apps that interconnect with the PSTN (e.g., Skype-In and Skype-Out) because interconnection within a country can lead to licensing and/or regulatory obligations.

³ See, for example report from Analysys Mason on benefits from partnerships between CAP and Access providers <http://www.analysismason.com/Research/Content/Reports/Broadband-in-Asia-Pacific-investment-partnerships-policy/full-report/>

OTTS DO NOT NEGATIVELY IMPACT OPERATORS

The evidence generally does not support claims by many traditional service providers that they cannot fairly or effectively compete with OTT communications providers, which in turn causes them to suffer revenue and traffic losses. On the contrary, the evidence shows that operators' revenues will continue to grow, although at a slower pace. Even where voice revenues are declining, many operators are seeing overall revenue growth due to increasing uptake in data services—caused by the proliferation of popular OTT services.⁴ Rather than harm operators, it can be argued that OTTs are driving increased demand for higher priced data packages and creating additional value for networks.

It is also important to note that network operators are increasingly entering the OTT market to compete more directly with OTTs by offering their own comparable services. The market has demonstrated that operators can successfully compete with OTT providers, particularly where operators see the OTT market as a new avenue for revenue streams.

CONCLUSION

Calls for additional regulation too often focus on the increasing costs and claims of falling revenues being experienced by traditional service providers. The benefits to consumers—in terms of diversity in service options and reduced prices—far outweigh any lost revenues. Additional OTT regulation threatens the global Internet by fragmenting access to OTTs, and imposing burdens on OTT providers that would likely be impossible to meet. Countries with additional OTT regulation would be strained with the economic, social, and political costs of extraterritorial monitoring and enforcement, if such mechanisms could even work. Such regulation also engenders a real risk of stifling the efforts of traditional and incumbent telecommunications providers from developing their own OTT services. For these reasons, additional regulation is a short-sighted proposition that should be avoided to protect continued innovation and growth of the Internet.

⁴ See, for example, [Bharti Airtel](#) in India and mobile traffic and revenue trends in [Sweden](#).

SMART REGULATION FOR OTT GROWTH

INTRODUCTION

Internet content, applications and services are rapidly evolving, providing unprecedented benefits to consumers, driving economic growth, and supporting the free flow of information. Today, entry barriers to creation of new services delivered online—or “over the top” (OTT)⁵—are lower than in traditional media and communications markets. This in turns drives vigorous competition and innovation across markets.

OTT services have developed under existing regulatory oversight. A host of laws of general applicability, including those governing tax, competition, privacy, and consumer protection, already apply to Internet applications and content today.

However, over the last several years, some have suggested subjecting OTT providers to licensing and/or regulatory obligations similar to those imposed on traditional network operators. This paper argues that this approach is incorrect. This paper first provides an overview of Internet content, applications and services, and submits that regulating OTTs would have unintended negative consequences on the broader Internet ecosystem, including on technologies that do not yet exist. Next, it identifies three of the main claims in support of OTT regulation, and offers responses to each.

It is important to note that this paper provides only a high-level overview of how the OTT regulatory debate is evolving around the world, and offers general strategies for addressing emerging regulatory concerns. Because each country has its own unique framework for telecommunications, consumer protection, data protection, lawful interception and other laws and regulations, any proposed or enacted rules would need to be considered on a case-by-case basis, taking into account local laws, regulations and circumstances. At the same time, the global nature of the Internet suggests countries examining these issues should be mindful of the risks of fragmenting the Internet and undermining its dynamism.

OVERVIEW OF INTERNET CONTENT, APPLICATIONS, AND SERVICES

There is no single definition of OTTs, but they are generally understood to refer to Internet-based content, applications and services that ride “over the top” of networks and are accessed by end users through a broadband Internet connection (i.e., they comprise the application layer of the Internet and are distinct from the network layer). OTTs can include any type of content, application, or service accessed via websites or mobile applications, including social media, search engines, video streaming, e-commerce, voice over Internet protocol (VoIP), and messaging, to name just a few.

OTTs are most often provided by entities that are not associated with the owners/operators of the last-mile access network infrastructure, although many OTTs also invest heavily in infrastructure, and pay a fair price for the hosting and bandwidth services necessary to deploy their content. These payments benefit the entire Internet ecosystem, including network operators. It is also important to note that those same operators are increasingly beginning to offer their own OTT services in addition to more traditional voice, video, and text messaging services.

⁵ There are a variety of terms used to refer to OTT content, applications and services, including Internet platform, Content & Application Provider (CAP), and digital platforms. This paper uses the term OTT because it most commonly used, but recognizes that the term OTT refers to the method of delivery only, and may not fully capture the technical aspects of terms such as Internet platform or digital platform.

OTTs are an essential—and increasingly important—element of the broadband value chain. Innovation in OTTs has led to a rich and diverse Internet, and has stimulated consumer demand for broadband Internet access, which in turn is a key driver for network operators to upgrade and expand their networks. Furthermore, any attempts to impose additional regulation on OTTs may stifle innovation, as the various Internet service and content companies are diverse and fast-changing, compared to regulatory regimes that are slow to react and adapt, and that can remain static in the face of rapid technologies advances. This is particularly true in regards to technologies that do not yet exist; as they would become subject to outmoded regulatory models that could be inappropriate or that do not make economic or regulatory sense. The unintended negative consequences could involve business uncertainty and lower economic growth and investment as a result of ambiguous or misapplied rules.

Among many other economic benefits, OTTs benefit consumers by providing:

- a panoply of new Internet-based products and services, such as e-commerce, social media, banking, e-government, telemedicine, and online education, among others;
- personalized content, such as online video-on-demand sites (e.g., Hulu and Netflix) that allow users to customize their media consumption; and
- communication services at substantially lower prices, or even at no cost, particularly OTT VoIP and messaging applications, such as Skype, WhatsApp, Viber, Facebook Messenger and FaceTime.

The vast array of content and services available to consumers drives up demand for Internet access services. Consumers seeking access to online video content, social networking, email, productivity tools, and the like purchase Internet access to get it, and must do so from fixed and mobile broadband Internet access providers. By driving demand for new broadband-delivered services, which leads to more revenue, OTTs create incentives for network operators to upgrade their networks, improve service quality and expand service offerings.

Beyond the benefits to consumers, the proliferation of OTTs, including VoIP and video communications, cloud computing, and productivity tools has wide-reaching societal benefits. In India, for example, OTT VoIP has [spurred](#) new employment opportunities, such as call centers serving overseas markets.⁶ Between 2012 and 2015, OTT cloud services are [expected](#) to generate more than 14 million new jobs globally, including 10 million in China, India and the Asia Pacific region.⁷

OVERARCHING REASONS FOR NOT IMPOSING TRADITIONAL REGULATORY FRAMEWORKS OR ADDITIONAL REGULATIONS ON OTTs

This section first identifies key reasons that traditional regulatory frameworks should *not* be imposed on OTT providers. In particular, it is noted that additional OTT regulation would fragment the global Internet, resulting in irrevocable harm to the Internet's openness and innovation. Additionally, the global nature of the Internet means that compliance and enforcement of OTT regulation would be difficult, if not impossible, without significant costs to governments. It could also severely threaten basic human rights, including freedom of speech and expression.

⁶ See Int'l Telecomms. Union, ICT Regulatory Toolkit, at 2.5.1.

⁷ IDC, Cloud Computing's Role in Job Creation, (March 2012) available at http://news.microsoft.com/download/features/2012/idc_cloud_jobs_white_paper.pdf.

THE POTENTIAL HARM TO THE GLOBAL INTERNET AND INNOVATION

To subject OTT providers to traditional licensing and regulatory obligations would impose an undue burden on OTT providers that would subsequently change the very nature of the Internet by fragmenting it and preventing end users from accessing valuable content. Because the Internet is inherently global, regulation in even one country can adversely impact innovation, economic growth and the availability of services, particularly because it can start a trend in which other countries also impose rules in order to protect their own operators or users (i.e., censorship). By doing so, countries raise entry barriers for innovative products.

Traditional licensing and regulatory frameworks are ill-suited to the dynamic and emerging services available. Typically, traditional regulatory frameworks have been characterized by high barriers to entry and other specific local requirements. Such regulations are poor fits in competitive markets and with Internet-based services, which tend to be global in nature. OTTs would be potentially subject to vastly different and burdensome regulatory obligations in every country around the world creating redundancy and barriers to investment.

JURISDICTIONAL CHALLENGES WOULD MAKE COMPLIANCE AND ENFORCEMENT DIFFICULT

One of the overarching challenge with imposing national obligations on “pure” OTT providers relates to legal jurisdiction and extraterritoriality, and how rules would or could be applied to OTT providers that do not have a physical presence in a country, or are otherwise not subject to a particular country’s legal jurisdiction.⁸ It is worth noting that because of the borderless nature of the Internet, OTT providers often do not have control over who accesses their applications and where those users are located. This is especially true for OTTs that are freely available and do not rely on a subscription model. However, identifying a user’s location is challenging even for subscription-based OTT providers because of the mobile nature of the Internet. For example, a subscriber may use the OTT service in a different city, state or country from the billing address, particularly if the subscriber uses widely available methods to mask his or her IP address, such as via a virtual private network (VPN).

In countries with a free and open Internet, users are generally able to access, download and use OTT content, applications, and services from anywhere in the world, provided they have an Internet connection. As such, one argument against additional regulation of OTT services is its harmful impact on the global Internet wherein excessively burdensome national requirements, such as in-country localization requirements, for example, could force inefficient and uneconomic network architecture designs, raising costs and limiting consumer choices.

In order to bring OTT providers directly under local jurisdiction, a country may seek to impose data localization laws on OTT providers that requires them to install servers in-country in order to allow for government access and monitoring, as well as to subject providers to local jurisdiction. For example, Vietnam’s Ministry of Information and Communications (MCIT) issued a [Circular](#) in August 2014 proposing to require social media and news websites, regardless of where the OTT provider is located in the world, to install at least one server in Vietnam and allow the government to inspect the server at any time. As with licensing and other regulatory obligations, data localization would impose an undue burden on OTT providers, one that would likely be impossible to meet on a global scale. The costs of locating servers in

⁸ EC, DSM Strategy, p. 10.

country are prohibitively high, and would effectively eliminate the provision of many valuable OTT services, especially if multiple countries around the world were to impose such obligations. In addition, OTTs would need to conduct a global review of potential regulatory burdens prior to launching service, which would stifle start-ups and innovation. Not only would such rules impose substantially more burdens on OTT providers than on current operators, it would likely lead to OTTs facing a patchwork of conflicting regulations around the world, leading to compliance and enforcement issues.

Although banning a handful of websites or domain names would be possible, subjecting potentially hundreds (or more) OTT providers from around the world to licensing and regulatory obligations would essentially require a system of strict governmental control and constant monitoring of citizens' access to information. This would not only be costly, but would also implicate human rights issues, such as freedom of speech and expression. In many countries, such extreme measures would violate basic constitutional rights. In addition, simply banning websites may not be sufficient because Internet users may use VPNs or other measures to circumvent blocks or bans.

Additionally, it would be difficult to establish liability and enforcement. For example, how would the government determine which OTT content, application and service providers are subject to a ban? Would operators be required to block those OTTs that are on a "blacklist" or would operators be permitted to block any OTT that it believes should be subject to the regulatory framework? Would there be recourse for OTT providers that believe they have been blocked? What would be an operator's liability for failing to block OTTs that have not obtained the appropriate authorization or comply with other regulatory obligations? Would end users be prosecuted for using OTTs that have been banned? These represent just a few of the challenging questions that would need to be addressed if national regulations proliferate, and highlight how the burden of additional OTT regulation on the sector would outweigh any benefits to operators.

Ultimately, subjecting OTT providers to traditional licensing and regulatory obligations, including data localization obligations, would effectively eliminate the "Internet" and instead create fragmented country or regional "intranets" that would stifle innovation and access to new and useful technologies. The following sections build on these issues with OTT regulation by analyzing and rebutting the three specific arguments asserted by advocates of OTT regulation.

CHALLENGING THE CALLS FOR REGULATION OF INTERNET PLATFORMS

As OTTs have proliferated and begun to more directly challenge traditional service providers (and their revenue streams), those providers have responded by arguing that additional regulation of OTT providers is needed for a variety of reasons. This section examines three of the main arguments that traditional service providers and some governments are making for increased regulation of OTTs, namely:

1. OTTs, particularly communications-based OTTs provide the same services as traditional communications service providers, and therefore OTTs should be regulated in the same manner. In this view, regulation is needed in order to remedy the existing regulatory imbalance and level the playing field between OTTs and traditional operators.
2. OTTs are free riding on operators' networks and should be subject to "cost sharing" obligations in which OTT providers would pay operators for the use of their networks.

3. OTT providers have a negative economic impact on operators, which hampers network build-out and investment.

For each argument, this section identifies the key reasons for not regulating OTTs, as well as identifies possible responses that could be used to rebut such arguments and instead promote a “hands off” approach to OTT regulation.

CHALLENGING THE CLAIM THAT ADDITIONAL REGULATION IS NEEDED TO “LEVEL THE PLAYING FIELD”

Arguments calling for a “level playing field”

One of the main arguments that proponents of additional OTT regulation make is that more rules on OTT providers are necessary in order to “level the playing field.” Also referred to as “regulatory neutrality” or the “same service, same rules” argument, advocates for a level playing field posit that OTTs provide the same services as traditional operators, but are not subject to the same licensing and regulatory obligations, including reporting, interconnection, lawful interception, consumer protection and other requirements. According to this argument, such OTTs gain an unfair market advantage because they do not pay regulatory fees or taxes, are not required to provide the same level of service quality and do not incur significant costs related to regulatory compliance. This argument is specifically used against those OTTs that are viewed as competing with traditional services, particularly OTT VoIP and messaging apps, as well as video streaming providers.

The level playing field argument was most recently discussed by the European Commission (EC) in the [Digital Single Market \(DSM\) Strategy for Europe](#) (DSM Strategy, May 2015), which outlined a series of initiatives to comprehensively review the European Union (EU) telecommunications rules to “look at ways of ensuring a level playing field for players to the extent that they provide competing services and also of meeting the long term connectivity needs of the EU.”⁹ The EC has also begun its review of the [Audiovisual Media Services Directive](#), with the goal of leveling the playing field between OTT video providers and traditional pay TV providers and broadcasters.

In India, both the Telecommunications Regulatory Authority of India (TRAI) and the Department of Telecommunications (DoT) appear poised to introduce some type of OTT licensing and regulatory obligations, particularly for OTT VoIP. In March 2015, TRAI issued a [Consultation Paper on Regulatory Framework for Over-the-Top \(OTT\) Services](#) (OTT Consultation), which strongly advocated for an approach that would correct “regulatory imbalances.” For example, TRAI stated, “[t]here is a need for the Government to ensure proper regulatory balance to ensure a level playing field in terms of regulatory compliance.”¹⁰ In its [Report on Net Neutrality](#) released in July 2015, the DoT similarly recommended imposing licensing and regulatory obligations on OTT VoIP providers, but advocated against regulating other types of OTTs.

Rebuttals to the level playing field argument

OTT service providers are fundamentally different from network operator or service providers. The basic premise of the level playing field argument is not generally accurate, particularly when dealing with

⁹ EC, DSM Strategy, p. 10.

¹⁰ TRAI, OTT Consultation, p. 99.

pure OTTs because they arguably *do not* offer the same services as traditional operators.¹¹ First, OTTs are fundamentally different from network operator or public utilities. Operators manage critical network infrastructure with a high cost of entry and potentially minimal competition. OTT markets are different as they do not control “critical infrastructure” that the public must be able to access, and face a much more competitive marketplace than operators – they can be easily replaced by a new entrants as we have repeatedly seen through the rise and fall of Internet companies. Telecommunications typically are offered on a country-by-country basis, while the Internet services marketplace is global, with services (and the benefits they bring) traversing national boundaries. Furthermore, there are high barriers to entry to providing telecommunications, as entering the arena is typically costly and frequently is strictly limited by licensing requirements. That is why most countries have a relatively small number of players offering fixed and wireless services. On the other hand, Internet applications and content are characterized by low barriers to entry, numerous providers, and fierce global competition.

As a result of these differences, there are underlying differences between traditional and emerging (application-based) services that would call for different regulatory treatments to be applied. Take for instance the treatment of Voice over IP (VoIP) services. The European Commission has observed that the regulatory treatment of VoIP depends on the nature of the service being offered.¹² In countries like Singapore, Hong Kong, and the United States regulators have drawn distinctions between substitutes for traditional telephony and emerging services, and tailored regulatory burdens accordingly¹³. For example, Singapore does not require all providers to offer access to emergency services, but does require customer notice when access is not provided. Adopting a smarter and more tailored approach to OTT regulation works in favor of the consumer. Regulatory approaches such as those adopted by Singapore and Hong Kong permit consumers to make informed decisions and allow competition to flourish without erecting insurmountable barriers to entry. At the same time, by eschewing more burdensome regulatory approaches, regulators avoid unnecessary barriers to entry and preserve the benefits that innovation delivers to the public.

Remove or reduce existing regulations on operators; do not add new ones

Regulation is not without cost. Rather than impose outdated and unnecessary regulatory obligations on OTT providers in order to level the playing field, policymakers should instead consider eliminating or streamlining such obligations on network operators in order to promote investment, growth, and access to broadband. Thus, a level playing field would be achieved by subjecting all providers to the same

¹¹ Note that it is necessary to differentiate between pure OTT VoIP and messaging apps (e.g., GoogleTalk, FaceTime, Viber and WhatsApp) and apps that interconnect with the PSTN (e.g., Skype-In and Skype-Out) because interconnection within a country can lead to licensing and/or regulatory obligations.

¹² European Commission, Commission Staff Working Document on the Treatment of Voice over Internet Protocol (VoIP) under the EU Regulatory Framework, June 14, 2004, available at http://ec.europa.eu/information_society/newsroom/cf/dae/itemdetail.cfm?type=371&typeName=Policy%20and%20legislation&item_id=13631.

¹³ See, e.g., E911 Requirements for IP-Enabled Service Providers, First Report and Order and FNPRM, 20 FCC Rcd. 10,245, 10,256-57 ¶ 23 (2005) (“VoIP 911 Order”); Info-communications Development Authority of Singapore, IP Telephony Framework, <http://www.ida.gov.sg/Policies-and-Regulations/Industry-and-Licensees/Licensing/Framework-and-Guidelines/IP-Telephony-Framework>; Office of the Communications Authority of the Government of Hong Kong, Know More about IP Telephony Service, http://www.ofca.gov.hk/mobile/en/consumer_focus/education_corner/guide/advice_lfs/ipts/.

deregulatory approach. Some entities, including at least one regulator and various network operators, have favored this approach.

In March 2014, Bahrain's Telecommunications Regulatory Authority (TRA) advocated against OTT licensing and regulation in its [Study on Policy and Framework for Governing Internet Applications](#). Among the TRA's conclusions was that, rather than imposing additional regulations on OTTs, it should review existing regulatory obligations placed on network operators and remove those obligations that impede operators' ability to respond appropriately to the competitive challenges they face (e.g., tariff regulation). Likewise, in its submission to TRAI's consultation, Verizon [urged](#) the government to refrain from imposing licensing or additional regulatory obligations on OTT providers, but to instead focus on an overall deregulatory approach and simplified licensing regime. Verizon further stated that "India's competition and consumer protection laws should be sufficient to address potential harms that face the marketplace."¹⁴ Even ETNO, which has advocated for a level playing field between operators and OTTs, recommended in its [ETNO Reflection Document on the draft BEREC Strategy 2015-2017 and Work Programme 2015](#) that policymakers should adopt a deregulatory approach for existing operators by removing the telephony access market from the list of markets to be regulated on an ex ante basis, due to competition from VoIP.

CHALLENGING THE CLAIM THAT OTTs ARE FREE RIDERS AND SHOULD PAY OPERATORS FOR USE OF THEIR NETWORKS

Arguments in favor of requiring OTTs to "share the cost" for network development

The free rider/cost sharing argument is based on the notion that all OTT providers must use operators' networks in order to deliver their services. Particularly as OTTs become more bandwidth intensive, the assertion is that OTTs are increasingly straining network infrastructure, which then requires operators to increase network capacity, which is costly. Proponents contend that because OTT providers do not directly contribute to the costs of upgrades or build-out, yet reap the benefits of the operators' investments, they are free riders on operators' networks. To remedy this problem, the supporters of cost sharing claim that mechanisms should be developed so OTT providers could directly compensate the operators for the necessary upgrades.

The free rider argument has been made by Vietnam's Ministry of Information and Communications (MIC); TRAI in its OTT Consultation; and Bharti Airtel in its comments to TRAI's OTT Consultation.

- In October 2014, Vietnam's MIC released a public consultation based on its *Circular on Managing the Provision and Use of Internet-based Voice and Text Services*.¹⁵ The MIC proposed several rules targeting OTT VoIP and messaging apps, such as requiring providers to enter into an undefined commercial relationship with a licensed operator as a condition of supplying OTT services in Vietnam in order to push OTT communications-based providers to pay operators.

¹⁴ Verizon comments to TRAI's OTT Consultation, p. 2.

¹⁵ The consultation is not currently available on the MIC's website, but is discussed in the 2015 Section 1377 Report (1377 Report) released by the Office of the U.S. Trade Representative, at https://ustr.gov/sites/default/files/2015-Section-1377-Report_FINAL.pdf. In the 1377 Report, the USTR called for the Vietnamese government to reconsider its policies on OTT regulation because it could implicate Vietnam's existing trade commitments and harm the growth of Vietnam's ICT sector.

- In TRAI's OTT Consultation, the regulator leaned towards requiring at least certain OTTs to, at a minimum, pay telecommunications service providers (TSPs) for the use of their networks, and potentially require OTT providers to obtain telecommunications service licenses. The proposals were made on the basis that OTT providers do not own network infrastructure, but instead "rely on free riding over the network of the TSPs."¹⁶ However, TRAI did note that OTT providers "contend that end users pay for the data usage as per data tariffs offered by the TSPs. Hence, there is no free ride."¹⁷
- In comments to TRAI's OTT Consultation, [Bharti Airtel](#) urged the government to impose a "Network Usage Charge" on OTT communications, which would be paid directly to TSPs to fund the network infrastructure deployments that OTTs use. Bharti Airtel argued that the Network Usage Charge should be usage based, charged, for example, on a per minute/MB basis. According to the operator, this would "incentivize the OTT to optimize their service from a network efficiency perspective."¹⁸

Rebuttal to the cost sharing argument

The notion that OTT providers are free riding by not contributing to network infrastructure build-outs is inaccurate. A September 2014 [report](#) issued by Analysys Mason showed that OTT providers invest about USD 33 billion annually in network infrastructure worldwide, including data centers, submarine cables and servers for data transport, delivery and hosting. OTT providers are indeed investing substantially in network deployments, including throughout Asia where OTT providers have invested over USD 7.7 billion. Overall, OTT providers' investment in broadband network infrastructure is not only high, but growing. Between 2011 and 2013, OTT providers' infrastructure investments grew by 13%.

Beyond investments in networks, OTTs also contribute to operators' growth. As has been the case for decades, operators earn revenues from tariffs and fees paid by subscribers. In particular, operators charge consumers based on their use of data, typically on a tiered system based on the speed and/or the amount of data used each month. Fixed line ISPs generally charge subscribers based on the maximum download speed the subscriber can expect (e.g., 50 Mbps), while mobile operators generally charge subscribers based on the amount of data used (e.g., 10 GB of data per month). In each case, the higher the speed or amount of data, the more that the plan will cost, and subscribers will purchase more expensive data plans as they use more OTT content, applications, and services. Thus, operators in fact are being compensated for the increases in traffic they are experiencing.

In addition, rather than free ride, OTT providers *increase* the value of the operators' networks by creating and offering content that boosts demand for broadband services. As consumers use more bandwidth-intensive OTTs, such as video streaming, cloud services and video conferencing, they must pay for higher tiered services, in terms of faster speeds and greater amounts of bandwidth, which operators price at a premium. A 2013 [study](#) by market research company, ICM Research found, for example, that consumers who use OTT services (such as VoIP calls and online video), who generate online content, and who are otherwise "digitally mature," are increasingly likely to upgrade their Internet connection to get faster speeds, and are more willing to pay more for that faster connection.¹⁹

More recently, in a January 2015 report published by the Organisation for Economic Co-operation and Development (OECD) entitled, [The Development of Fixed Broadband Networks](#), the OECD stated, "[p]ricing

¹⁶ TRAI, OTT Consultation, p. 101.

¹⁷ TRAI, OTT Consultation, p. 109.

¹⁸ Bharti Airtel Comments to the TRAI OTT Consultation, pp. 21-22.

¹⁹ ICM Research, CCIA, Broadband Consumption Survey, June 2013, available at.

mechanisms that do not excessively depress demand have the advantage of stimulating adoption.”²⁰ The OECD report used Swisscom as an example, highlighting that mobile operator “makes the OTTs its allies in selling faster broadband” because it charges customers based on speed tiers with no data caps, which means that customers must pay for higher speeds if they want to use bandwidth-intensive OTTs.²¹ The OECD further noted that, when it comes to broadband, consumption is a benefit, that does not necessarily cause increased costs, and that “[n]ew applications that generate more usage may also generate more revenues.”²²

Operators have also echoed the view that OTTs create value for their networks by stimulating demand for broadband services. For example, in March 2015, the CEO of Europe’s largest cable operator, Liberty Global, [stated](#), “People would like to say ‘oh Netflix is an enemy.’ Not really. They drive broadband consumption.” In May 2015, the CEO of a rural broadband service provider in the United States [stated](#), “We are OK with the customers that are cutting the traditional cord and moving over [to OTT] because it increases the value of our broadband.” In August 2015, an officer of Telefonica Brasil [stated](#) that the mobile operator had “anticipated the data boom,” and that revenues from mobile OTT services, such as music, e-learning and news, grew 43% between 2013 and 2014 to reach to BRL 1.6 billion (USD 450 million) by the end of the year. Revenues from mobile OTTs are expected to continue to show strong growth in 2015.

The idea that OTTs are creating disincentives for operators to invest in their networks is also inaccurate. Developments in broadband network deployments around the world paint the true story. In Latin America, for example, the GSMA noted in a May 2015 [report](#) that since 2011, mobile operators in the region have invested USD 8.5 billion on spectrum licenses alone, with almost USD 170 billion expected to be invested in LTE deployments between 2015 and 2020. A 2014 GSMA [report](#) further noted that the mobile industry’s revenue growth “out to 2020 is forecast to be close to 5%, well ahead of the global average figure of 2.9%, reflecting both further subscriber growth but also the increasing importance of data revenues.”²³ In Europe, a May 2014 [report](#) by IHS, a U.S.-based analytics company, noted that operators and governments will invest over EUR 30 billion between 2014 and 2017 in the broadband sectors of France, Germany, Italy, Spain, and the United Kingdom. In Asia, operators are continuing to invest significantly in fiber-to-the-premises (FTTP), driven by the quickly growing demand for bandwidth-hungry applications such as cloud services and video streaming. An April 2014 [report](#) by the International Data Corporation (IDC) found that the increase in demand for OTTs has resulted in bandwidth upgrades across Asia-Pacific countries, with fiber-based deployments replacing DSL and cable. Rather than deter network investment, the increased use of OTTs is spurring network deployments worldwide.

Imposing a “cost sharing” obligation on OTT providers in order to stimulate network investment would only stifle innovation in OTT content, applications, and services. The additional costs of doing business would be overly burdensome for well-established OTT providers, and would likely be insurmountable for start-ups. This would ultimately have an adverse impact on demand for broadband services, which would reduce operators’ revenues and impede future investments.

Cost sharing obligations would also be difficult to develop and enforce. In its recent report on fixed broadband networks, the OECD challenged ETNO’s claim that OTTs should pay operators to deliver

²⁰ OECD Report on The Development of Fixed Broadband Networks, p. 39.

²¹ OECD Report on The Development of Fixed Broadband Networks, p. 39.

²² OECD Report on The Development of Fixed Broadband Networks, p. 39.

²³ GSMA, The Mobile Economy, Asia-Pacific 2014, p. 3.

content because cost sharing is “necessary to provide sufficient incentives for further fiber deployment.”²⁴ In response to this argument, the OECD stated, “It is important to understand that, in this environment, terms such as ‘causing costs,’ or ‘paying a fair share’ are arbitrary” because the costs and benefits of delivering content are “inherently shared among all the participating networks.”²⁵ The OECD raises the important issue of how to implement charging mechanisms because, practically, the development of a cost-sharing formula would be extremely difficult. How would costs be apportioned among the carrier itself and the OTT providers? How would different types of OTTs be “charged?” The development of such mechanisms would take years and likely be subject to multiple appeals and challenges.

Extraterritorial application of a country’s rules are inherently challenging. Implicit in such obligations is that operators would be permitted to block OTTs that do not enter into charging arrangements with operators. Denying consumers access to useful OTTs, such as Skype, WhatsApp, Viber, Facebook Messenger and FaceTime, among others, would stifle innovation in the content market by creating significant barriers to entry. Allowing operators to block OTTs that do not engage in “cost sharing” schemes would likely lead to decreased demand for broadband Internet services since many of the applications that drive demand would not be available.

The idea that OTT providers are free riders was also challenged by Bahrain’s TRA in its [Study on Policy and Framework for Governing Internet Applications](#). After considering the free rider argument, the TRA concluded that rather than regulate OTTs, the government should focus on improving network infrastructure so that operators can deliver high-quality and high-capacity OTTs without straining their networks. Among the TRA’s proposals was to focus on infrastructure build-out and affordable access to broadband so broadband providers have more capacity to sell more applications and services, as well as to review the broadband Internet access market to determine if insufficient competition slowing network build-out and resulting in insufficient capacity to handle new and innovation OTTs.

CHALLENGING THE CLAIM THAT OTTs NEGATIVELY IMPACT OPERATORS

Arguments that OTTs negatively impact operators

Many traditional service providers argue that they cannot fairly or effectively compete with OTT communications providers, which causes them to suffer revenue and traffic losses. They argue that the increasing use of OTTs, particularly those that use large amounts of bandwidth (such as video streaming sites), also overburdens networks, which causes congestion and reduces Internet access quality of service.

For example, in its consultation, TRAI claimed that OTTs directly impact the business models of existing operator business models by offering lower-priced, or even free, services to end users. TRAI claimed that this causes operators to lose revenue, which decreases the return on their network investments, and potentially erodes their investment capability.

Bharti Airtel has also argued that OTTs, particularly OTT VoIP providers, are seriously undermining the revenues of TSPs. The operator asserted that “every 1 percent of TSP voice minute that is substituted by OTT VoIP would lead to a Rs.1200 crores revenue loss to the industry.”²⁶ Bharti Airtel stated that this loss “would result in either data prices going up significantly or an equally severe blow to Industry revenues

²⁴ OECD Report on The Development of Fixed Broadband Networks, p. 37.

²⁵ OECD Report on The Development of Fixed Broadband Networks, p. 37.

²⁶ Bharti Airtel Comments to the TRAI OTT Consultation, p. 5. INR 1200 crores equals approximately USD 190 million.

and its contribution to the development agenda” for India’s digital development.²⁷ These assertions form the basis of Bharti Airtel’s view that the government should require OTT VoIP providers to share the costs of network build out by paying operators a Network Usage Charge.

Rebuttal to the negative economic impact argument

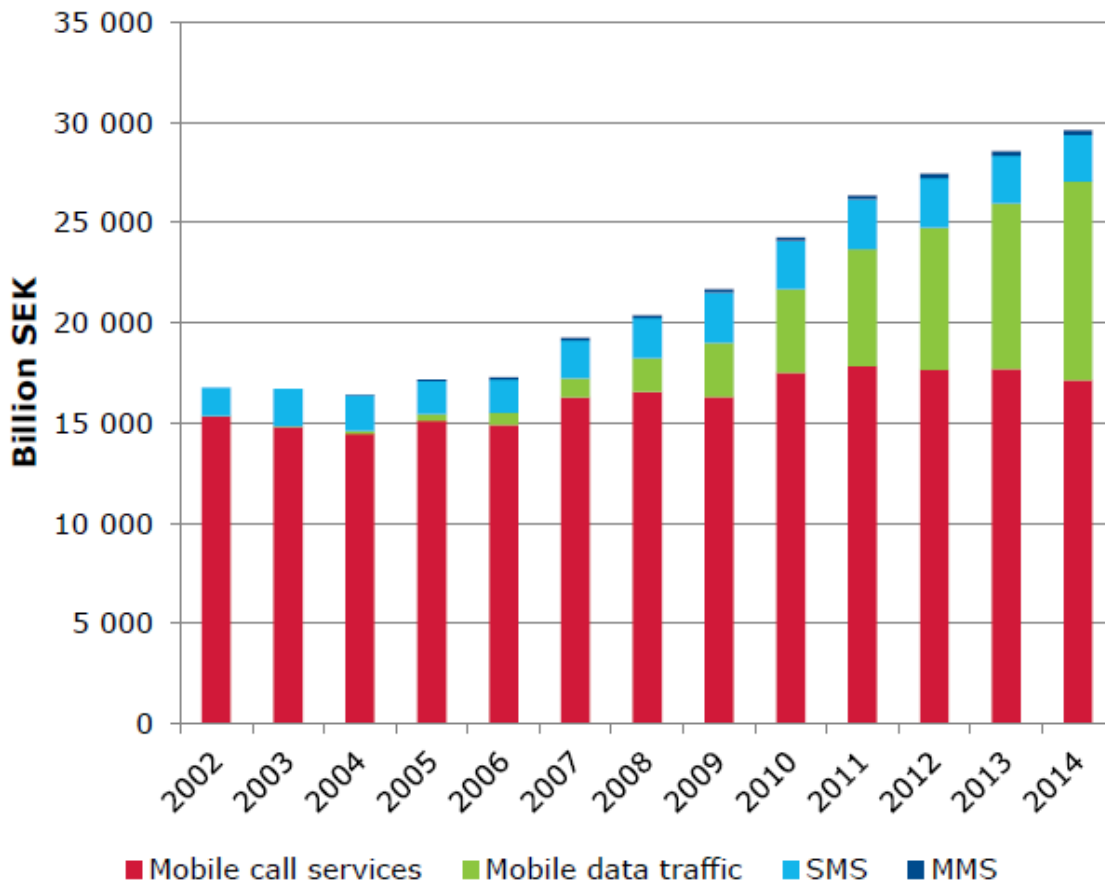
Overall, it is not clear the extent to which competition from OTTs harms operators. On the contrary, there is evidence that revenues will actually continue to increase, although at a slower pace. For example, an [analysis](#) by Ovum predicted that global mobile connections will reach 8.2 billion in 2017, with annual mobile service revenues reaching USD 1.1 trillion. Although Europe is expected to see declining mobile revenues, mobile revenues are set to grow at a CAGR of 4.2% in South and Central America, 3.8% in Africa, 3.2% in North America and 1.9% in Asia-Pacific and the Middle East. Ovum predicts that voice revenues will continue to be an important revenue source, accounting for over 50% of total mobile service revenues in 2017. However, revenues from non-voice services are expected to increase at a CAGR of 8.2% between 2012 and 2017, rising from USD 357 billion in 2012 to USD 531 billion in 2017.

Specifically, it is not clear that operators are generally experiencing net revenue losses, particularly because at least some are seeing their profits soar—driven by growth in data revenue. For example, the revenue losses from OTT VoIP that Bharti Airtel claims do not appear to impact its profits. In April 2015, Bharti Airtel [reported](#) over a 30% increase in net profits for the first quarter of 2015, with total net profits of INR 1,255 crores (about USD 200 million)—which the company attributed to increases in mobile data revenue. Further, on a yearly basis, Bharti Airtel’s net profit soared 86.9% for FY 2014-15 as compared to the previous fiscal year. Additionally, Bharti Airtel’s revenues are also increasing; they are up 3.6% over the previous year. Thus, it appears that any revenues Bharti Airtel is losing from voice traffic, it is more than making up for in mobile data revenues.

In Sweden, the [trends](#) for mobile services between 2002 and 2014 show that revenues are steadily growing, and that revenues from data services are increasingly a larger share of total revenues over the last several years (see Figure 1). Between 2013 and 2014 alone, revenue from mobile data traffic increased by 20%, generating one-third of the total revenues for mobile services. Further, total revenues continue to grow, which demonstrates that revenues from data traffic can make up for losses sustained from declining voice traffic.

²⁷ Bharti Airtel Comments to the TRAI OTT Consultation, p. 5.

Figure 1. Sweden: Total end user revenues for mobile voice and data services, 2002-2014



Source: Swedish Post and Telecom Authority, *The Swedish Telecommunications Market 2014*, June 2015. SEK 1 = USD 0.12

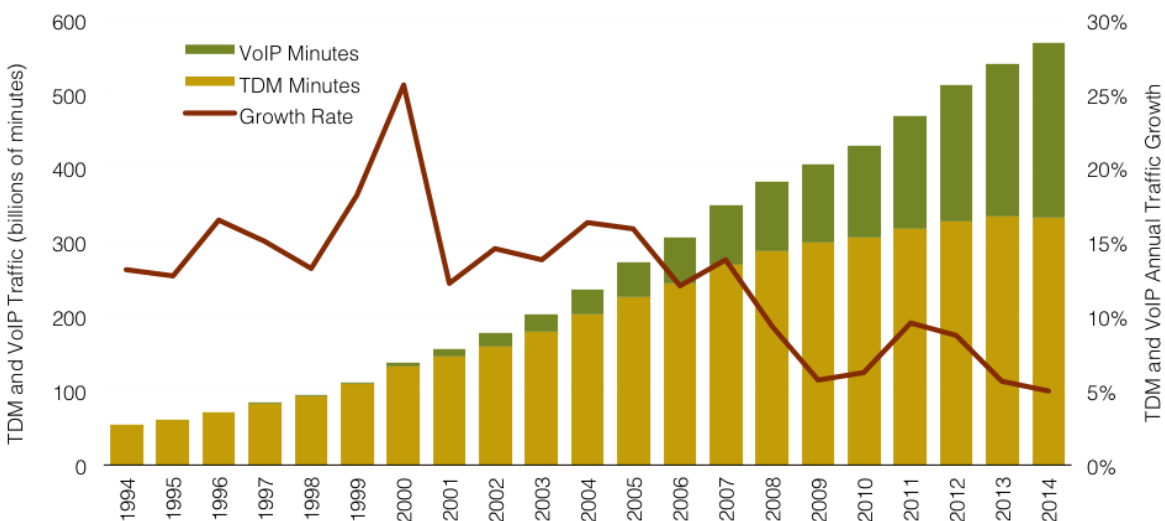
The above examples undermine the operators' argument that they will need to substantially increase retail rates in order to compensate for OTTs that are free riding on operators' networks and threatening network investment. Instead, revenues from mobile data are the cause of soaring profits. Instead, it can be argued, rather than harming operators, OTTs are driving increased demand for higher priced data packages and creating additional value for networks. This idea is reflected in the GSMA's report [Global Mobile Economy 2015](#), which found that "[o]perators in markets across the world are showing signs that they are able to monetize this strong growth in data traffic. This is a key factor at a time when revenues from more traditional services are under pressure and operators have significant investment commitments as they roll out high speed networks."

Nonetheless, there appears to be a global trend in the mobile market of flattening or declining average revenue per user (ARPU). Where operators are experiencing revenue losses, the reasons for such declines are multi-faceted and cannot be attributed solely to OTTs. While OTTs may play a role, over the last several years, broadband markets have matured (particularly mobile broadband), termination rates for voice interconnection have been cut, and competition has intensified, leading to saturated markets with high market penetration rates. Additionally, consumer behavior has changed significantly, with users

preferring to communicate via non-voice services, such as text, instant messaging, and social media. As noted in a Strategy& (formerly Booz & Company) [report](#), this results in stagnant markets, rapidly falling prices and declining margins. Introducing new OTT regulations to protect operator revenues would not help resolve any of these impacts on operators' revenue growth, but would harm consumers by reducing choice and increasing prices.

In addition, as shown in Figure 1, the growth rate of voice services (both VoIP and traditional voice) has been declining steadily since 2004, and saw declines in voice traffic during periods before the prevalence of OTT VoIP applications. Thus, it is likely that operators would be experiencing declining growth in the voice market, regardless of the increased use of OTT VoIP.

Figure 2. International call volumes and growth rates, 1994-2014



Source: TeleGeography Report, <https://www.telegeography.com/research-services/telegeography-report-database/>

Rather than seek regulatory favor, many operators around the world are opting to compete more directly with OTTs by offering their own comparable services. The market has demonstrated that operators can successfully compete with OTT providers, particularly where operators see the OTT market as a new avenue for revenue streams. For example, Uruguay's state-owned operator, Antel, recently [launched](#) an OTT video streaming platform called Veoflix. One [study](#) found that in Europe, almost all operators offering pay TV services have launched OTT applications as well, and that "it is pay TV operators, rather than pure-play services such as Netflix, that may reap the most benefit from the consumer demand by extending their reach into online subscriptions services."²⁸

Operators around the world are also entering the OTT VoIP market. A 2013 market analysis [found](#) that half of the OTT VoIP services launched in Europe over the previous 18 months were being offered by mobile network operators. In 2013, for example, O2 in the United Kingdom [launched](#) its own OTT VoIP app called Tu Go, which is similar to Skype In/Out. With Tu Go, subscribers can download the app for free

²⁸ See <http://www.streamingmediaglobal.com/Articles/Editorial/Featured-Articles/The-State-of-OTT-Services-2014-95011.aspx>.

on up to five devices and can send and receive calls and texts to or from anyone using any of the devices. Rather than being charged on a per minute or per text basis, such as with more traditional services, Tu Go is charged under the subscriber's data plan (i.e., the same as any other OTT app would be charged). Operators in other markets are entering the OTT field as well. For example, in April 2015, Vietnamese mobile operator, Viettel, [launched](#) its OTT messenger app, called Mocha Messenger.

Ultimately, policy makers should resist the temptation to implement regulations with the intention of protecting the revenues of any particular entity, as such efforts are not conducive to promoting consumer welfare and overall economic growth, both of which would suffer from regulatory constraints placed on OTT providers. In liberalized markets, the goal of good policy is not to protect certain entities from competitive pressure, but to encourage competition in order to promote widespread access to services at affordable prices. Thus, profitability should be a result of an operator's innovation and success at delivering high quality services at competitive prices.

CONCLUSION

Calls for additional regulation generally miss the forest for the trees by focusing on the increasing costs and falling revenues being experienced by traditional service providers. The benefits to consumers in terms of diversity in service options and reduced prices far outweigh lost revenues. Indeed, it appears that traditional operators are not suffering, but are enjoying record profits due to increased data usage based on the value that OTTs create for Internet access services. Additional OTT regulation threatens the global Internet by fragmenting access to OTTs, and imposing burdens on OTT providers that would likely be impossible to meet. Countries with additional OTT regulation would be strained with the economic, social, and political costs of extraterritorial monitoring and enforcement—if such mechanisms could even work. For these reasons, additional regulation is a short-sighted proposition that, if it gains favor, would pit a country's operators against OTTs, causing potentially irreparable harm to the global Internet.