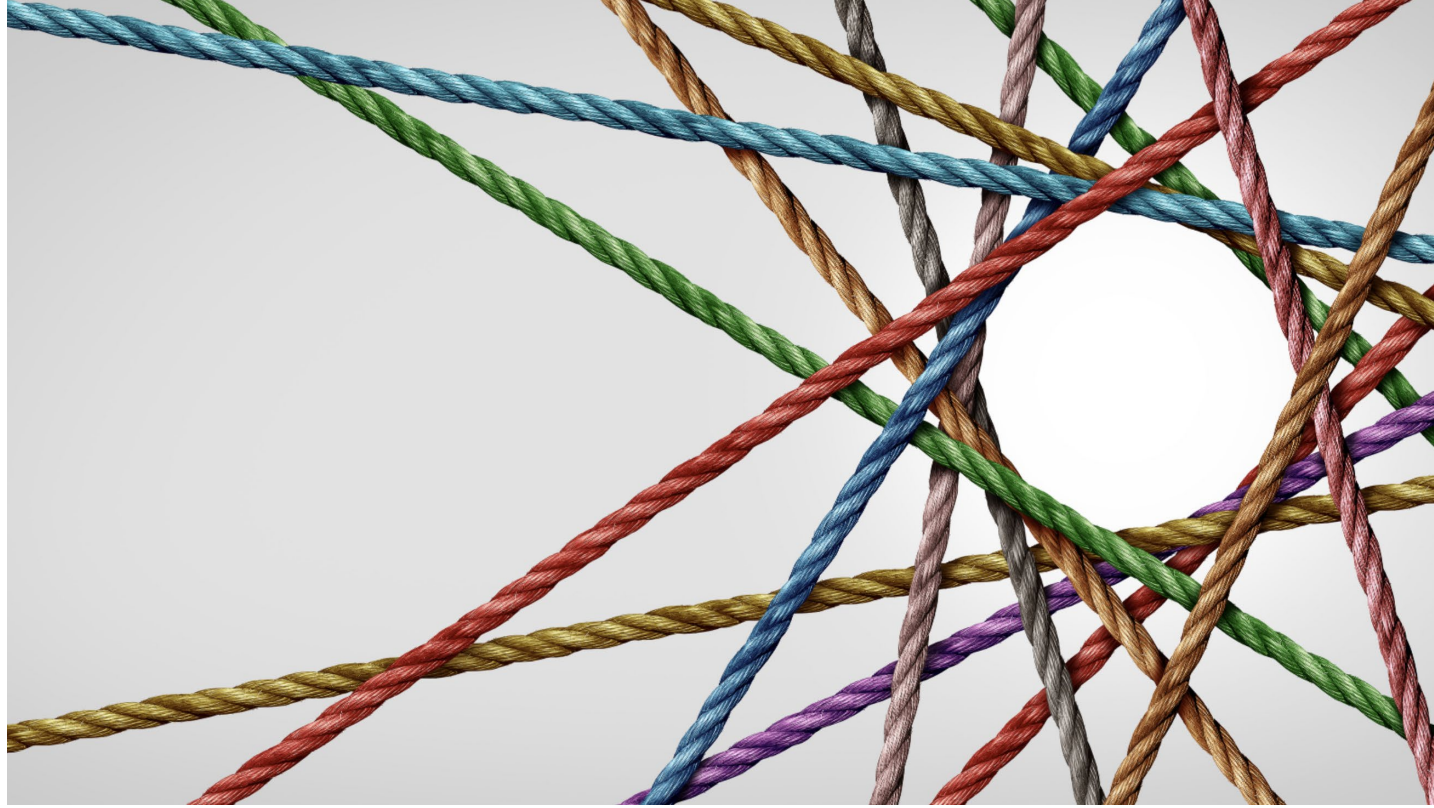


Reshuffling the Connectivity Ecosystem

CENTRE FOR A DIGITAL SOCIETY
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Untangling the Connectivity Ecosystem Policies



Asymmetric regulatory playing field

- **Market evolution:** Large online platforms have progressively introduced a wide range of digital products and services, which are either **complements** or **substitutes** to those of the telecom and media (e.g., traditional broadcaster) companies
- **Regulatory evolution**
 - **Electronic comm Services & Networks:**
 - Pro-competitive access regulation: intense (price) competition
 - Net Neutrality rules: prohibition of commercial and unreasonable technical discrimination
 - **Large Platforms regulation:** until DMA/DSA entered into force: **'Soft regulation'/Self-regulation** which reinforced size and market (and bargaining) power

Where they are **SUSBSTITUTES** services

- Competitive disadvantage for Telcos and Media company (**different regulatory burdens**)
- **Difficult for them to replicate/emulate** OTT business models first of all because of the scope of 'physical network' (national vs trans-national scale)
- Where there is a substitutability there was **an earlier, yet very partial, adaptation** of regulation (AVMSD for VOD and later somehow for sharing platforms, EECC for NI-ICS)

Where they are Complement services

- Generally speaking, **ISPs are bottleneck for CAPs**: ISPs have material possibility to exert market power through non-price discrimination practices ▶ that the rationale for **Net Neutrality rules** (Open internet regulation 2015) ▶ which is an **asymmetric regulation (non-discrimination obligation are one-way)** reinforcing the existing regulatory asymmetry
- However:
 - In EU most of ISPs are not vertically integrated** (CAPs-ISPs) (in EU net neutrality was not a market power leveraging problem, as in US), while it addresses discrimination issues between CAPs (with different CAPs market power) yet placing obligation (and an opportunity cost) on ISP
 - If CAP has must-have content** (≈ gatekeeper), **ISP cannot exert mkt power** because of intense competition between ISPs for end-users

Complements with asymmetric regulation (1)

- Must-have **contents could drive ISP connectivity demand (indirect externality** – If we consider **telco network as a two-sided market** intermediating CAPs and end-users)
- Payments in two-sided market are defined by market forces and not by regulation: **there are two-sided markets where on one side there is a free exchange, yet the platform should be able to adjust the price on the other side of the market**
- Telcos cannot (easily) increase end-users price or monetize otherwise any increase in traffic demand, **because the asymmetric regulation**
 - Competitive pressure created by pro-competitive access regulation and strict merger control regime**
 - Net Neutrality regulation, e.g., prohibition of zero rating and other content differentiation practices (cost opportunity on ISP)**

Complements with asymmetric regulation (2)

- **Negative externality:** increase in traffic that telcos do not manage to monetise because of existing regulation – it is not even the cost increase of additional traffic (to be assessed by the consultation) because the networks have been build (and financed) to have an over-capacity (creating positive externalities ⇒ that's why received public funds)
- Particular form of market failure:
Regulation-mediated market failure

Complements with asymmetric regulation (3)

➤ Particular form of market failure:

regulation-mediated market failure

➤ Why some NRAs (and BEREC) did not consider it to be a market failure?

1. Regulators apply the legislation and regulate. Even if they can advocate for changing legislation, legislation (i.e., Open internet regulation) and their own regulatory activity (access regulation) is difficult to be seen as the concause of a market failure
2. Economic regulators (having promotion of competition as an objective) focus on market power. Whereas other market failures, i.e., externalities or public goods or market incompleteness, are not considered as a trigger for regulation (NRAs can usually regulate only SMP-operators or bottleneck or symmetric regulation if it could be a source of market power, as for art 61.3 Eu Code and interconnection obligations)

Complements with asymmetric regulation (4)

➤ How to tackle this regulation-mediated market failure?

1. Softening regulatory asymmetry: how?

- Decreasing regulatory/competition intensity on ISPs side (ex-ante EECC and merger regulation)? [very important but not dealt in this presentation]
- Softening NN rules? see appendix NN

2. Tightening regulation on the CAPs/ISPs direct relationship? How?

- Regulated transit fee
- Obligation to negotiate followed (in case of no agreement) by arbitration
- Investment fund

Transit fee (1)

- Cost-sharing mechanism ('fair contribution' as transit fee)
- Peering is not a two-way access (one can call it interconnection – even if it is not interconnection under the EU code) but traffic is so asymmetric that peering under an economic point of view has one-way access features ⇒ telco network is a bottleneck for CAPs (as a one-way access) but not termination bottleneck
- there is not a call externality on users, what characterized call termination (that is that an unregulated termination price set by a network operator is not paid by that network operator's customer yet by its competitors' customers)

Transit fee (2):

- The free peering internet regime was established and had very much sense in an ecosystem made of symmetric traffic and actors' size, where all the traffic patterns were (more or less) balanced and costs compensated
- Data traffic is now extremely (qualitatively) unbalanced: (a) very concentrated, and originated by a small group of content generators; (b) mainly downloading
- create a redistribution of surplus toward the actors sending more data ➡ redistribution of surplus because of changing in the traffic patterns

Transit fee and Net Neutrality rules

- Why OIR is not an obstacle for a fair contribution in UE
 - In UE the OIR disciplines the relationship between ISPs and end-users, but (only indirectly) the relationship between ISPs and CAPs
 - In UE the OIR refers only to discriminating traffic management practices affecting end-users and not the general economic relationship between ISPs and CAPs
 - Net Neutrality's debate **originated in the US**: ability of ISPs not to discriminate, where there is:
 - integrated ISPs (ISPs merged with CAPs) Comcast/NBC-Universal in 2011 /Sky in 2018; AT&T /Time Warner in 2018, potentially discriminating in favor of their own contents
 - Much smaller degree of downstream competition in telecom's markets ⇒ different price trends, ability to discriminate and market/bargaining power)
 - No application of competition law in regulated markets (Trinko case-law)
- **All these elements are different in UE**

Transit fee and traffic externalities

- Transit fee would **discipline data traffic**, whereas at the moment there is no incentive for CAPs to optimize traffic (on the network perspective) while the optimization is on the CAPs' profit side (negative externality)
⇒ a transit charge would put incentives for CAPs to efficiently dimension the data transmitted (**internalize externalities**)
- This is always true (variable with costs), yet especially true for content which are actually **not requested by end-users**:
 - Content with an automatic streaming (auto-play)
 - Advertisements
- Or for content that have a quality (dimension) which has not be requested/ valuable / appracibale by users

Transit fee and effect on prices and cons welfare

- A transit fee would produce [Jullien, Bouvard 2023]:
 - a) decreasing price for ISPs' services;
 - b) decreasing overall price and increasing consumer welfare, which depends on the OTT business model and some mkt characteristic:
 - (▶) for ads business models: the effect depends on return to ads, that is the ability of OTT to indirectly monetize users by increasing ads quantity/price ⇔ if this is high the effect on price and welfare is positive
- However: ▶▶

Transit fee and effect on prices and cons welfare

- a) A decrease in ISP price would imply that any fee income is greatly competed away (which is to be expected by the high competition pressure on ISP side)
⇒ in this way there would not be additional funding base for new investments
- bi) for paid business models: any increase in price is passed on to end-users [this is to be expected because OTT high market power of]
- bii) for ads business models: price and welfare effect are positive if OTT can increase ads quantity/price ⇒ but this do not consider the opportunity cost of attention for users and the transfer of more data to platforms (which is the main driver for consumer monetization) ► Whereas a policy objective could be empowering end-users to allow them to fairly monetize (part of) their data given to OTT, so (a) users could have more resources and willingness to pay for a higher internet access price) and/or (b) Telcos could provide users paid service for data intermediation vis-à-bis OTT (under DGA)

Transit fee and vertical integration

- transit fee could alter large CAPS/gatekeeper “make or buy” trade-off, increasing price for “buying” ISP services could rather decide to “make” them
 - ▶ **incentives to vertical integration (as ISP) ⇒ If OTT are willing to withstand heavy-handed telco regulation, this could be very problematic for Telco**
- a) when you have an ads model and CAPs efficiently monetize users, an integrated CAP-ISP could increase its profit by **lowering the access charge and choosing the profit-maximizing ads level** [also enhanced by competition differential in the two sides] ⇒ even more price-competition on ISP markets
- b) vertically integrated CAP-ISP could think to distribute its must-have content only via its network [remind that NN regulation are one-way!] [maybe art 6(6) DMA could represent an obstacle for that] In any case, art 102 would impede an abusive leveraging of market power by dominant CAP into ISP competitive markets. However, the typical antitrust remedy [i.e., BskyB] is content sharing in exchange of a payment [**warning: possible complete overturn where non-integrated ISP has to pay for CAP must-have content!**]

Investment fund: questions and first thoughts (1)

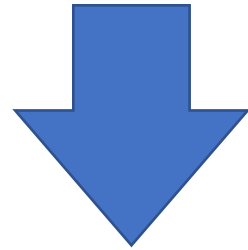
- Different variable/questions (this is less explored as nobody in the industry seems to favor this model with exception of some broadcasters and seemingly the Commission):
 - EU or national fund? Maybe EU fund could avoid fragmentation (as for the universal funds) and would favour the harmonisation of rules and consolidation of the internal market; moreover a EU scale would be consistent with the general centralized approach adopted regarding the regulation of digital markets and services (which such a policy would supplement), as LTGs would likely be a subset of VLOPs/Gatekeepers, which have global dimension and should effectively be disciplined at EU level.
 - To finance universal coverage and/or technological market failure (i.e., 5G-advanced or small cells that are not planned to be deployed by industry) in industrial hub and economically profitable centers

Investment fund: questions and first thoughts (2)

- Who should contribute: only CAPs or also Electronic communications service providers not deploying networks?
- As for CAPS, all CAPS or only Large traffic generators (LTG) should contribute? , the threshold must be set at EU level, to safeguard smaller traffic generators, active in one or few Member States, as broadcaster and other AVMS
- In any case, the contribution that each CAP/LTG would provide should be proportionate to (a) the traffic generated (to work as a mechanism to internalize externalities) and (b) the revenue associated with that traffic (in order to be completely consistent with Net Neutrality rules and principles and not represent a theoretical obstacle to content distribution).
- In the spirit of contribution to the ecosystem, this contribution could be (a) monetary or as (b) investment /co-investment in network facilities (to be specified after the consultation and the analysis of data)

Exploratory Consultation: context

- What is “Fair Contribution” debate about?



European Union (Digital Decade policy programme, 14 July 2022): *“all market actors benefiting from the digital transformation should assume their social responsibilities and make **a fair and proportionate contribution** to the **public goods, services and infrastructures**, for the benefit of all Europeans.”*

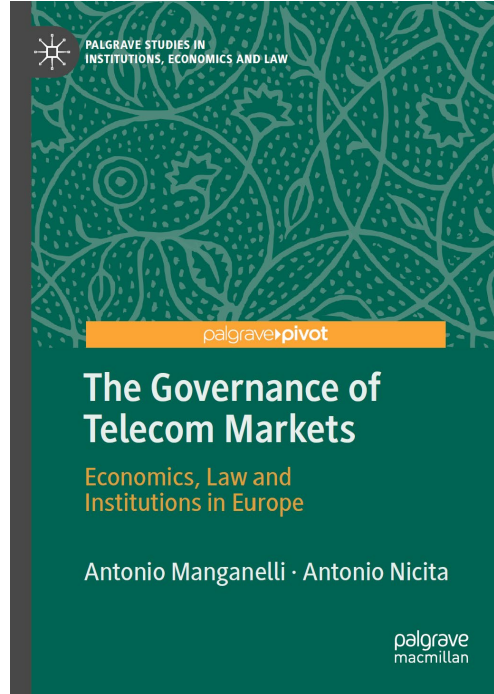
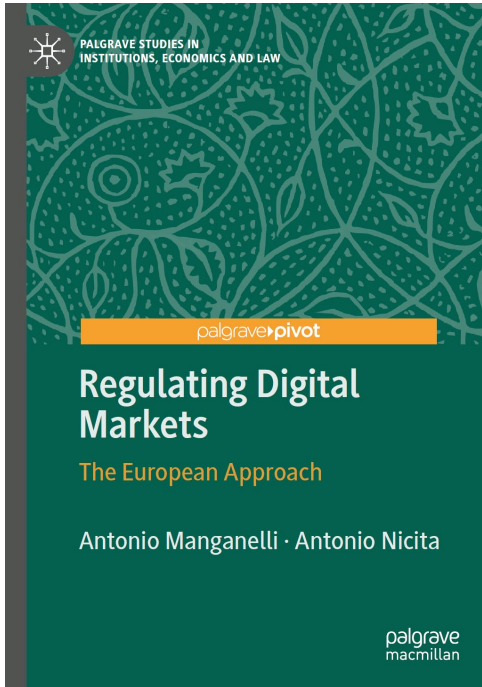
Exploratory Consultation: objectives and follow-ups (1)

- Defining the extended ecosystem: “public goods, services and infrastructures”
- What are relevant investments and what players should be involved.
- Taking account all investment – consultation results (possible comparability – CAPS using some allocation driver for allocating investment cost)
- Positive externalities (at industry level and society level – connectivity as enabler of digital citizenship)
- Contribution of all players to the system / relationship with general taxation OTT

Exploratory Consultation: objectives and follow-ups (2)

- Assessing the intersection of different regulatory frameworks
- Assessing the need of altering those framework and how
- Softening NN? How?
- Decreasing regulatory asymmetry, decreasing regulatory/competition intensity on ISPs side (ex-ante EECC and merger regulation)? How?
- Transit fee?
- Contribution to investment funds?

Thank you!



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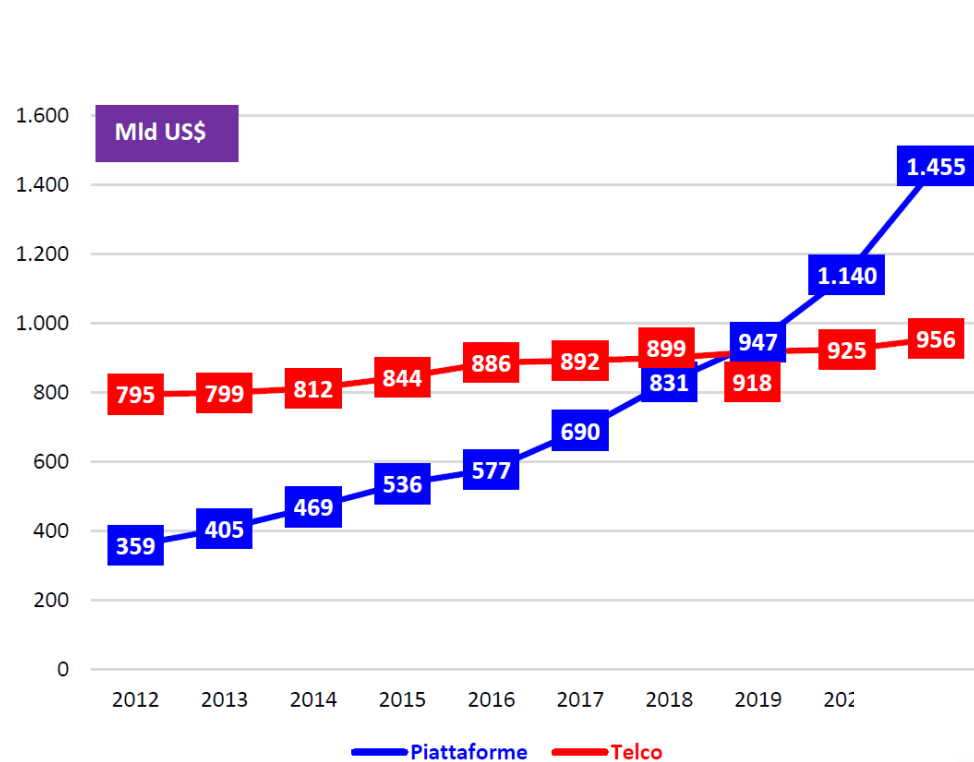
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Appendix (1): Softening Net Neutrality ?

- Fair contribution is not a NN issue (not a traffic discrimination ISPs vs end-users), yet if this is an ecosystem you cannot look only at one side of the market
- NN rules considered at the base of Telcos inability to discriminate and monetise some surplus from OTTs. Nevertheless, both Telcos and public opinion are not willing to change NN rules. A marginal adaptation (even done by interpretation), consistent with the principle of the regulation (and recital 7), could be to implement a consumer-driven net neutrality, in the sense that end-users can chose to have prioritised some traffic, paying extra money to the prioritised CAPs for the “premium” service, which could be than transferred to ISP.
- This solution works well for CAPs receiving direct payments from users, e.g, Netflix, (even if could be applicable to you tube premium / meta new business model in Australia)
- See OFCOM consultation on revision of NN rules

BACK

Appendix (2): Profits

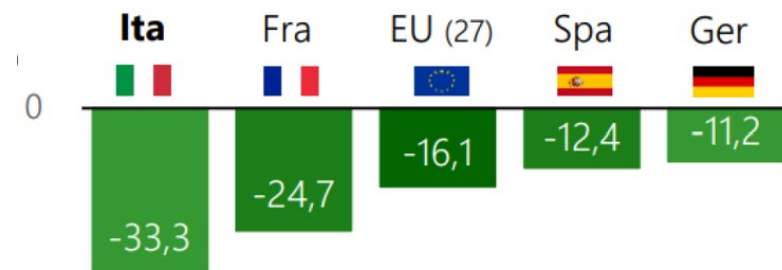


Source: Agcom 2022

Fonte: elaborazioni su dati aziendali

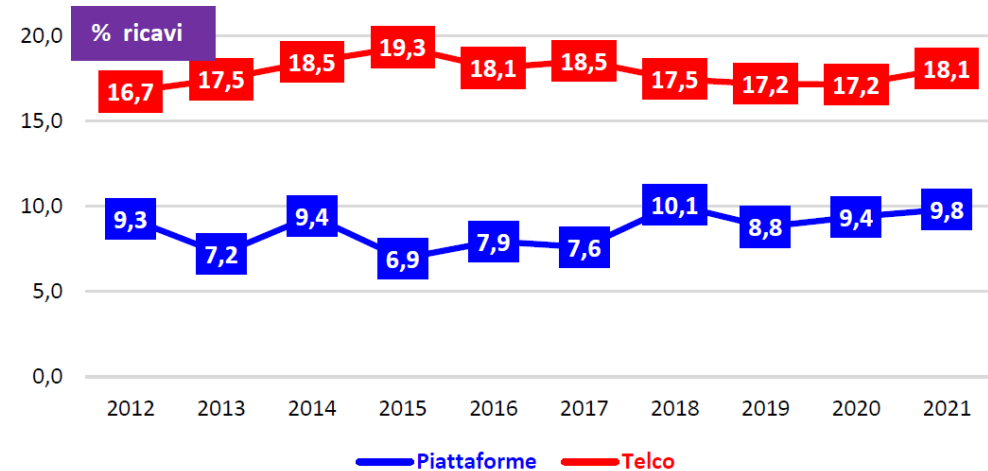
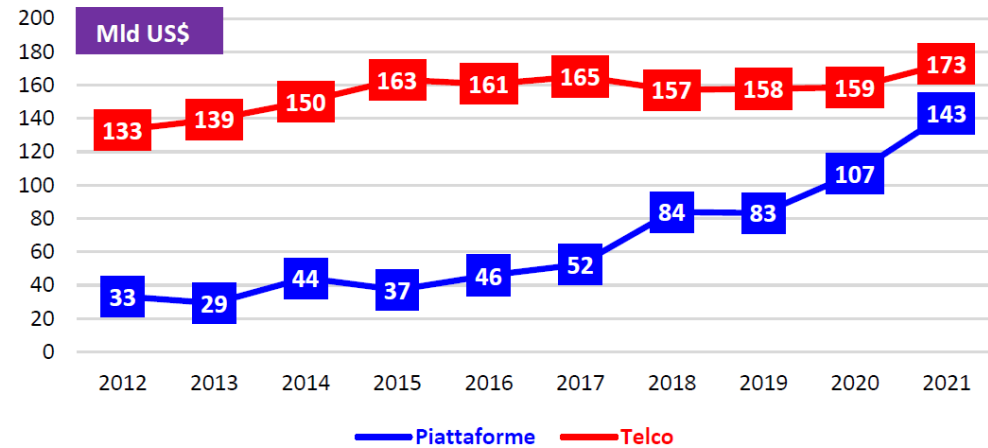
Mld US\$	Rank 2021	Var. (%) 2021/2020	Var. m.a. (%) 2021/12
Totale	1.455	27,6	16,8
Amazon	470	21,7	25,4
Apple	378	28,6	9,7
Google	258	41,2	19,9
Microsoft	185	20,6	10,9
Facebook	118	37,2	41,8
Netflix	30	18,8	26,4
Spotify	11	22,7	36,8
Twitter	5	36,6	36,1

Mld US\$	Rank 2021	Var. (%) 2021/2020	Var. m.a. (%) 2021/2012
Totale	956	3,4	2,1
AT&T	169	-1,7	3,2
Verizon	134	4,1	1,6
DT	129	7,7	7,2
China Mobile	123	10,4	4,3
NTT	111	1,8	1,2
China TLC	64	11,7	5,0
Vodafone	63	4,0	0,3
Orange	50	0,6	-0,3
Telefonica	46	-8,8	-5,0
BT	29	-2,3	1,6
Tim	18	-3,1	-5,6
Swisscom	12	0,7	-0,2
Iliad	9	29,2	10,2
- Asia	297	7,3	3,2
- USA	302	0,8	2,4
- EU	356	2,4	1,0



Telcos price variation (%) from 2011 to 2021

Appendix (3): Investments



Source: Agcom 2022

Mld US\$	Rank 2021	Var. (%) 2021/2020	2021 % Ricavi
Totale	143	33,6	9,8
Amazon	61	52,1	13,0
Google	27	25,3	10,6
Microsoft	23	11,9	12,6
Facebook	19	32,0	16,5
Apple	10	18,4	2,7
Twitter	1,0	9,0	19,9
Netflix	0,5	15,8	1,8
Spotify	0,1	5,4	0,9

Mld US\$	Rank 2021	Var. (%) 2021/2020	2021 % Ricavi
Totale	173	8,9	18,1
DT	31	41,0	24,2
China Mobile	30	8,9	24,4
Verizon	20	11,5	15,2
AT&T	17	5,4	9,8
NTT	16	-2,1	14,5
Vodafone	12	4,9	19,9
China TLC	12	-4,4	19,3
Orange	10	2,4	20,6
Telefonica	7	-12,2	15,7
BT	6	-6,0	22,1
Tim	5	15,4	26,2
Iliad	3	21,5	32,3
Swisscom	2	3,7	20,3
- Asia	58	2,7	19,6
- USA	37	8,7	12,2
- EU	78	14,3	21,8