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Presentation for Optus

International examples of national roaming and their relevance to the ACCC's inquiry in Australia

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International reasons to regulate do not apply in Australia; a declaration is not in line with good practice; and regulations are typically time-limited

Reasons

National roaming can be regulated due to a regional licensing regime

National roaming can be regulated to benefit a new entrant. Technology may limit the number of potential roaming partners

Neither reason applies in Australia. Licensing is national and there is no prospective new entrant operator seeking to make long-term investments in the market. All operators are free to strike commercial deals on agreeable terms, which could also reflect the higher costs of traffic in rural/regional areas

Good practice

Where national roaming is regulated, it is usually "light touch", or not regulated

Regulators in several benchmark countries have removed national roaming arrangements

Examples of 'price regulation' by other regulators focuses on guidance not price setting. The declaration of national roaming requires price regulation which is not light touch and would make Australian regulations more onerous than the majority of countries. National roaming intervention carries high risk of unintended consequences on market competition and investment plans

Timing of intervention

Sunset clauses are common and regulations have already, or are planned to fall away

If national roaming becomes a declared service, there is a risk that this becomes a permanent feature of the Australian market, preventing independent investment in this area

International examples provide reasons for regulating national roaming which are not relevant to regional and rural Australia

Reasons to regulate national roaming	Rationale	Relevance to regional and rural Australia
Regional licensing	Certain markets (e.g. Canada, USA) have regional spectrum licensing regimes which result in certain operators not being able to offer national coverage. National roaming regulations are required for these markets to operate.	Licensing in Australia is national, and there is no regulatory or spectrum related reasons preventing operators from building full national coverage
New entrant…	New entrants in a mature market can face barriers to entry, since nationwide coverage is usually required before the commercial launch of mobile services. This association with new entry means that in these circumstances national roaming can increase investment. However, this new investment is triggered by the new entry, not by national roaming.	There is no prospective new entrant operator in Australia, and all three have well established networks
…with a technology limitation	In certain markets (such as New Zealand), the network technologies and spectrum bands used by operators are not compatible. This may limit the number of national roaming partners available to a new entrant operator.	All operators in Australia use compatible GSM / W-CDMA / LTE technology and could technically roam on each others networks

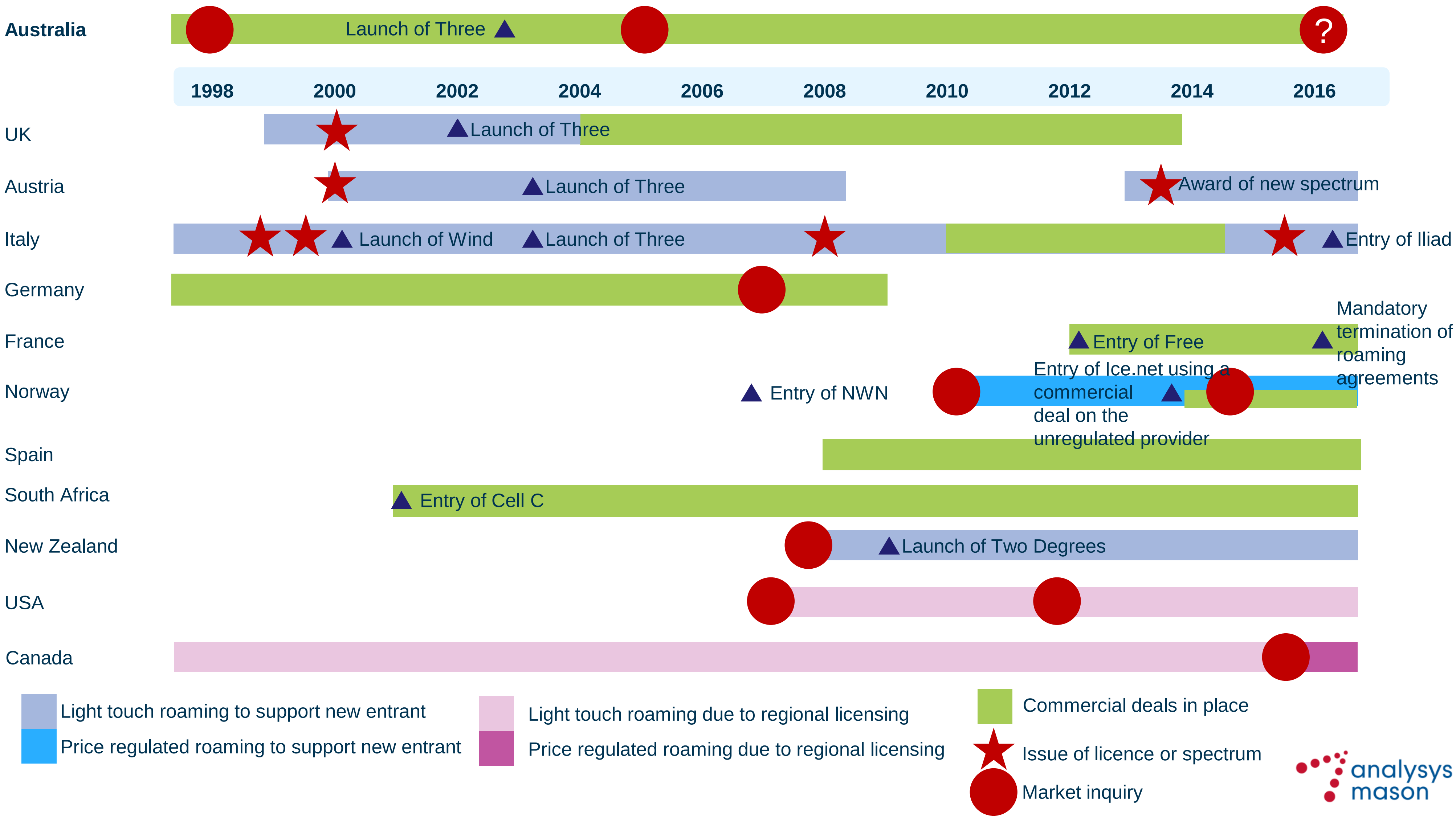
International examples of a light-touch, no regulation and removed regulation mirror the Australian situation of commercial NR opportunities

Approach to regulation	Rationale	Relevance to regional and rural Australia
Light-touch	The majority of benchmark countries that regulate national roaming (e.g. the UK before regulations were removed, New Zealand, Italy, Austria, USA) have light-touch regulations. This means that prices and terms and conditions are not regulated, and are left to commercial negotiation. The recent regulation in Norway aims to be light touch as the entrant has already reached an unregulated deal with the other supplier	The declaration of national roaming as a service would require the imposition of price controls, meaning Australia would not be in line with best practice
No regulation	Many countries, including present-day benchmarks such as France, the UK, and Germany, do not regulate national roaming at all. These countries typically cite the existence of multiple roaming partners who are prepared to offer commercially negotiated services.	Australia is similar to these countries in that Vodafone has a long standing commercial roaming agreement with Optus, and the potential to negotiate with Telstra
Removed regulation	Two countries, the UK and France, have taken steps to remove roaming arrangements. In 2004, the UK chose to no longer regulate roaming on the introduction of the then new EU regulatory regime. In France, the government has intervened to wind up commercial roaming contracts, arguing that they depress investment	Australia currently does not regulate national roaming. A designation would bring a multitude of direct, indirect and unintended consequences for each operator

Regulation of national roaming is not standard in stable, competitive and mature markets: it typically has sunset clauses or has been removed

Country	Approach of the regulator	Sun set of regulations
Italy	Agcom has imposed regulations to assist new entry on three occasions, each time imposing conditions as part of new licence or spectrum issue	Regulations imposed due to new market entry expire after **30 months**
Austria	The regulator has imposed regulations to assist new entry on two occasions, each time as part of licences and spectrum issues.	Regulations imposed due to new market entry expire after **4 years** and **6 years**
UK	Regulations were imposed in 1999 as part of new licences, in order to aid new entry, but were issued at the outset with the expectation of a sunset	Regulations were removed **five years** after imposition when the market was reviewed
France	Roaming is not regulated in France. ARCEP is of the view that even commercially negotiated roaming contracts decrease investment	ARCEP is acting to terminate commercially negotiated roaming contracts
Norway	Regulation has been introduced in Norway as part of a market review to assist the entry of Ice.net. Markets are reviewed every three years, as in the rest of Europe	**Three years** as part of the regular market inquiry process

National roaming regulation has been introduced at key market milestones: new market entry, and the new allocation or re-farming of spectrum



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Australia does not share any of the characteristics of the countries where national roaming is regulated

Country	New entrant need for National Roaming?	Regional licensing?	Sunset to National Roaming?	Regulated introduction of National Roaming
UK	Yes	No	Yes	Yes
Austria	Yes	No	Yes	Yes
Italy	Yes	No	Yes	Yes
Norway	Yes	No	Yes	Yes
New Zealand	Yes	No	No	Yes
USA	No	Yes	No	Yes
Canada	No	Yes	No	Yes
Germany	No	No	N/A	No
France	No	No	Yes	No
Australia	No	No	N/A	To be decided

Yes No

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Introduction and purpose of this document

- The Australian Competition and Consumer Commission (the ACCC) is running a declaration inquiry regarding national roaming, a wholesale service where the customers of one mobile operator would use the radio access network of another mobile operator in certain areas of the country.
- The ACCC is soliciting industry views on whether national roaming should become a declared service. This would mean that all mobile operators (Telstra, Optus, and VHA) could be required to offer national roaming at a regulated price set by the ACCC, according to the supply conditions defined by the ACCC.
- In its public statements, the ACCC has stated that national roaming would enable mobile operators to provide coverage for their customers in areas where they don't have their own networks. The ACCC has identified a number of key issues that a declaration inquiry would focus on. These include:
  - how consumer demand for mobile services is evolving, and whether there are differences between regional and urban areas;
  - the likely investment plans of each of the mobile network operators to extend coverage and upgrade technology without a declaration;
  - whether there are significant barriers to expanding the coverage of mobile networks;
  - what lessons are there from similar experience with national roaming in other countries.
- In this paper, we address this final point, presenting our view of whether national roaming should be declared, based on the arguments and approaches used in benchmark countries by regulators and mobile operators.

Source: ACCC

The characteristics of the Australian market do not strongly support the introduction of national roaming regulation

- National roaming regulations in benchmark countries are introduced for a limited number of reasons: new market entry, or to make a regional licensing regime function. Regulations are usually “light touch” and time limited. In several cases they have been removed entirely

1	National roaming can be regulated due to a regional licensing regime	Certain markets (e.g. Canada, USA) have regional spectrum licensing regimes which result in certain operators not being able to offer national coverage. National roaming regulations are required for these markets to operate. This is not the case in Australia.
2	National roaming can be regulated to benefit a new entrant	New entrants in a mature market can face a large barrier to entry, since nationwide coverage is usually required before the commercial launch of mobile services. This association with new entry means that in these circumstances national roaming can increase investment. However, this new investment is triggered by the new entry, not by national roaming, which is more likely to depress investment in a mature market.
3	Where national roaming is regulated, it is usually “light touch” and time limited	Where regulators do impose regulations, prices and terms and conditions are typically left to commercial negotiation. The regulator intervenes in the event of a dispute between negotiating parties. Where price is regulated, it is usually recognised that roaming costs in rural areas are higher than in urban areas, and that this should be reflected in the price.
4	Regulators in several benchmark countries have removed national roaming regulation	In several countries (e.g. the UK, France), regulators have removed national roaming regulations, or intervened to end privately negotiated national roaming contracts, in recognition that national roaming is no longer needed in the absence of a new entrant and can depress investment.

1 In certain countries, a regional licensing regime requires national roaming regulation to operate effectively

Canada has regional licensing and spectrum awards, resulting in a geographically fragmented market

The spectrum licensing regime in Canada is regional. The country is split into 14 regions, with spectrum allocated separately in each. The three largest operators have national spectrum holdings. Small regional operators do not. Regional operators would not be able to effectively operate without access to national roaming from the three large operators, as their customers would not be able to use their mobile services outside their region.

The **USA** spectrum and licensing regime is also fragmented, meaning no MNO has nationwide coverage

Similar to Canada, spectrum is auctioned in the USA on a region by region basis. It is also tradeable in the secondary market. Operators can sub-divide and sell on parts of the spectrum. As a result, spectrum holdings amongst operators are geographically fragmented. No single operator has complete spectrum holdings across the entire country. Operators refused to enter into commercial roaming agreements. National roaming regulation was introduced for voice in 2007 and data in 2011.

2

National roaming can be introduced to the benefit of a new market entrant; in this case regulations are typically time limited

The **UK** regulated national roaming for new entrant 3G operators	The UK introduced national roaming regulations in 1999, as part of the licence conditions of existing operators. This was done to facilitate new market entry by Three, a new entrant, 3G-only operator. Roaming was removed in 2004, given the success of Three and the continued existence of commercial roaming agreements.
New Zealand regulates national roaming to the benefit of new entrant, Two Degrees	New Zealand conducted a market inquiry in 2008 where it concluded roaming should be regulated to help Two Degrees. Other operators were not permitted to enter into roaming contracts.
Norway regulates national roaming to the benefit of new entrant, Ice.net	Norway's national roaming regulations were introduced in 2010, for the benefit of new entrant Ice.net (who bought the network assets of Tele2). Regulations on Telenor are reviewed every three years as a matter of course. However, they form a backstop since Ice.net current has an unregulated commercial agreement with TeliaSonera
Austria introduced national roaming when Three entered the market, and on allocation of new spectrum	Austria introduced national roaming regulations on two occasions. In both cases, regulations have as sunset clause, expiring after four years and six years.
Italy introduced national roaming for new entrants on three occasions	National roaming regulations have been introduced on three occasions, with regulations expiring after a period of 30 months.

3

It is international best practice not to regulate prices for national roaming

The **UK** allowed national roaming on commercially negotiated terms	When national roaming regulation was introduced in the UK, roaming was allowed to be commercially negotiated, as long as it was on reasonable terms and conditions. Ofcom could intervene in the event of a dispute
New Zealand currently does not regulate prices, but is reviewing this	National roaming in New Zealand is a "specified service" which means prices are not regulated. Roaming is only open to third operator, Two Degrees, and comes with certain coverage conditions
Norway provides price guidance, and has a higher price in rural areas	Prices for national roaming provided by the incumbent, Telenor, are subject to regulatory margin tests. However, guidance given says that prices charged in rural areas should be higher than those in urban areas in recognition of the higher cost to serve those areas. This incentivises Ice.net to build out its network
Austria does not regulate prices of national roaming	In Austria, national roaming prices are not regulated. Terms may be commercially negotiated but must be non-discriminatory
Italy only regulates prices charged by the incumbent. Other operators are free to commercially negotiate	In Italy, only roaming services offer by Telecom Italia, or by operators found to have significant market power, are price regulated.

4

National roaming regulations have been removed in several countries in recognition that they are not required in a stable and mature market

The **UK** removed national roaming regulation once the new entrant operator had established itself

In 1999, national roaming regulations were imposed as part of the licence conditions of mobile operators. In 2004, when the new EU regulatory regime was introduced, the regulator, Ofcom, review the market for national roaming. Regulations were removed on recognition of the existing commercial roaming contracts in place and the lack of market failure. Once it had established sufficient scale, the national roaming buyer (Three) also changed its host network through commercial re-negotiations

France does not regulate national roaming, but acted to terminate commercially negotiated national roaming contracts

National roaming is not regulated in France. There are two existing commercial roaming contracts. A new law introduced in 2015, the ‘Loi Macron’, has empowered ARCEP to intervene in these commercially negotiated contracts. In January 2016 ARCEP held a consultation on national roaming, proposing to gradually terminate all roaming agreements by 2018.

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We have examined national roaming regulations in nine key benchmark countries to help assess the relevance of roaming regulation to Australia

Country	Overview of spectrum and regulatory regime	Overview of national roaming regulations
New Zealand	National spectrum, regime based on declared services similar to Australia	Light touch regulation due to SMP in the wholesale market
United States	Highly fragmented, regional spectrum licencing regime	Light touch regulation due to SMP and regional fragmentation of spectrum
Canada	Highly fragmented, regional spectrum licencing regime	Cost-based price regulation due to SMP and the regional fragmentation of spectrum
UK	National spectrum, market-by-market approach to ex-ante competition regulation	No current regulation; past regulation light touch and based on fair-and-reasonable prices for a new entrant
France	National spectrum, market-by-market approach to ex-ante competition regulation	No regulation; regulator has intervened to cease commercial national roaming
Norway	National spectrum, market-by-market approach to ex-ante competition regulation	'Margin-squeeze free' price regulation due to SMP; prices set by 'cost-orientation' at higher rates in rural areas
Italy	National spectrum, market-by-market approach to ex-ante competition regulation	Light touch regulation based on a new entrant
Germany	National spectrum, market-by-market approach to ex-ante competition regulation	No regulation due to lack of SMP
Austria	National spectrum, market-by-market approach to ex-ante competition regulation	Light touch regulation based on a new entrant

New Zealand has light touch national roaming regulation, implemented to assist a new entrant which has only one potential roaming partner

Market summary

- Three operators: Spark (Telecom New Zealand) with 37% share, Vodafone with 39%, and Two Degrees with 24%
- Vodafone and Two Degrees have a commercially negotiated network sharing agreement
- Two Degrees is a relative new entrant, launching in 2009
- Spark's 2G services are based on IS-95 on 800MHz; it has invested in W-CDMA 3G services at 850MHz. Its LTE uses 700MHz, and 1800MHz.
- Vodafone and Two Degrees operate GSM, W-CDMA, and LTE networks at 700MHz, 900MHz, 1800MHz, and 2100MHz

Regulatory summary

- The regulatory regime is set out in the 2001 Telecommunications Act. The regulator is the Commerce Commission (ComCom)
- The regime is similar to Australia, with ComCom declaring services as either "specified" (required as a wholesale service but not price-regulated) or "designated" (requiring price regulation)
- The licensing regime is liberal: it is not necessary to have a telecoms licence to operate a service, however a licence gives rights to access roads and land for network construction
- Spectrum is allocated on a national basis by auction. It is freely tradable

National roaming regulations

- National Roaming is a "specified" service: it must be offered on a commercially negotiated basis. There are conditions attached to this service:
  - The customer must have 100 sites, 10% coverage of the population, and plans and sufficient spectrum to cover 65% of the population.
  - Vodafone and Spark are prohibited from being access seekers for national roaming services. This means that the service is limited to Two Degrees, as a new entrant.
- These rules are in the Telecommunications Act. This act was reviewed in 2008, and national roaming was retained as a "specified" service. The justification is that due to spectrum and network compatibility, Two Degrees only has Vodafone as an option for a roaming partner since it could not roam on Spark's network
- ComCom also considered whether pricing should be regulated (whether national roaming should be a "designated" service). In 2010, ComCom stated that it would not do this, because there were commercial arrangements.
- The Telecommunications Act is currently under review. ComCom is reviewing whether national roaming prices should be regulated. The outcome of this is uncertain, the commercial arrangements cited by ComCom in 2010 are still in place. In addition, the justification for the regulation of national roaming in New Zealand remains the same – lack of competition in the wholesale market, driven by market conditions specific to New Zealand.

Source: ComCom, Telegeography, NZ Ministry of Business, Innovation & Employment, Analysys Mason

In the USA, regional spectrum allocation has resulted in a fragmented market that requires national roaming to operate effectively

Market summary

- Four large mobile operators: Verizon Wireless with 33% of customers, AT&T with 30%, T-Mobile with 18%, and Sprint with 17%.
- In addition, there are a number of small operators which only hold regional spectrum allocations.
- Partly because of the fragmented nature of spectrum holdings (see below), no operator has full nationwide coverage and therefore all need national roaming to provide a nationwide service.

Regulatory summary

- Telecoms regulation in the USA is shared between the states and the Federal Communications Commission (FCC). Various FCC and state telecommunications authorisations and licenses are required depending on the type of telecommunications service provided.
- The spectrum regime in the USA is unique: spectrum is auctioned on a region by region basis. It is also tradeable in the secondary market. Operators can sub-divide and sell on parts of the spectrum.
- As a result, spectrum holdings amongst operators are geographically fragmented. No single operator has complete spectrum holdings across the entire country.

National roaming regulations

- National roaming is regulated in the USA, but is “light-touch”, with prices and terms left to commercial negotiation.
- The FCC, the regulator, has been limited in its justifications, but cites the promotion of competition, and the past refusal of mobile operators to offer national roaming, as the major reasons.
- Historically, operators refused to offer commercial national roaming agreements to each other, creating holes in service coverage for each of them.
- The complexities of the US spectrum regime, and the fact that no operator has full nationwide service also make national roaming more necessary than in other countries. These conditions are different from Australia, and similar to those that exist in Canada
- In recognition of this sub-optimal situation, the FCC implemented national roaming regulations, in 2007 for voice and 2011 for data.
- Operators are not permitted to refuse to supply a reasonable request for national roaming. Prices and terms and conditions must be “commercially reasonable”. The FCC has power to arbitrate should operators fail to reach a commercially reasonable agreement

Source: FCC, Telegeography, ICLG

Canada also has a regional spectrum allocation that needs national roaming to operate effectively

Market summary

- Three large operators: Rogers with 34% market share, Telus with 28%, and Bell Canada with 28%. The remaining 10% is held by numerous small regional operators
- Rogers has 30% of spectrum holdings, Telus 25%, and Bell 21%. The regional operators hold 24% of spectrum, typically only within a limited geographic area
- Technologies are fragmented: Bell Canada operates an IS-95 2G network, W-CDMA 3G network, and an LTE 4G network; Telus operates iDen 2G, W-CDMA 3G and LTE 4G; Rogers alone operates consistent GSM / W-CDMA / LTE networks

Regulatory summary

- Spectrum is allocated and regulated in Canada by Innovation, Science and Economic Development Canada (ISED), a government department. Telecoms regulation more broadly is the responsibility of the Canadian Radio, Television, and Communications Commission (CRTC, the main telecoms regulator)
- The spectrum licensing regime in Canada is regional. The country is split into 14 regions, with spectrum allocated separately in each.
- The three large operators have national spectrum holdings. Regional operators would not be able to effectively operate without access to national roaming from the three large operators, as their customers would not be able to use their mobile services outside their region.

National roaming regulations

- National roaming is regulated for all operators in Canada, but in different ways for different operators. ISED requires all operators (including small regional operators) to offer national roaming services to all seekers on a non-discriminatory basis. Prices and conditions are commercially negotiated. Should the parties fail to agree within 60 days, the matter must be sent to arbitration.
- In addition to this, in May 2015, CRTC mandated that national roaming be offered by the three large operators, with prices set on a cost-plus basis.
- The operators submitted proposed rates in November 2015, but as at July 2016 a secondary proceeding remained ongoing to finalise the cost-based rates, expected to be completed by late 2016.
- The overall justification for national roaming to be regulated is that the regional spectrum allocation regime would not function without it as the regional operators would not be able to offer a service with national network coverage.
- The justification for price regulation of the three large operators is that these three operators together dominate the wholesale market. Small regional operators cannot compete effectively because of this. The policy also applies to wholesale access provided to MVNOs.

Source: ISED, CRTC, Telegeography, Analysys Mason

The UK regulated national roaming to facilitate new market entry, but has since removed regulations

Market summary

- There are four mobile operators in the UK: O2 (35% of customers), EE (31%), Vodafone (23%), Three (11%)
- Three was the last operator to enter the market, launching commercial services in 2002
- The market has been shaped by M&A activity. EE, itself formed by the merger of T-Mobile and Orange in 2010, was recently acquired by BT
- Commercial network sharing agreements are important in the UK, with Three and EE, and O2 and Vodafone each sharing part of their radio networks,

Regulatory summary

- The telecoms industry in the UK is regulated by Ofcom, which is responsible for both spectrum allocation and competition regulation
- The UK currently uses the EU regulatory regime. This is a General Authorisation regime in which operators do not need a licence. Markets are defined in advance and regulated on the basis of whether an operator has significant market power (SMP)
- Spectrum is allocated in the UK by auction on a national basis

National roaming regulations

- National roaming in the UK is not regulated; however it has been in the past. In 1999, O2 (BT Cellnet at the time), and Vodafone voluntarily accepted a licence condition (the “1999 National Roaming condition”) which required them to negotiate an agreement to provide national roaming to any “Relevant Mobile Operator”.
- Ofcom, argued at the time that a new entrant 3G operator would be at a significant disadvantage to established operators who already had nationwide 2G coverage.
- Regulations were “light touch”. O2 and Vodafone were required to negotiate a roaming agreement on reasonable terms and conditions; but prices were not set by the regulator. Ofcom was empowered to intervene in the event of a dispute. In addition, the regulation only applied to an access seeker with a network covering 20% of the UK population. When new operator, Three, entered the market, it signed a commercially negotiated roaming agreement with O2 without the need for Ofcom intervention.
- In 2003 and 2004, Ofcom reconsidered national roaming when the new European regulatory framework was introduced. Ofcom decided not to impose a national roaming requirement, in effect removing regulation of the service. Ofcom’s justification for the removal of regulation was due to the recognition that the wholesale market for national roaming was competitive and functioning well without intervention. Ofcom cited the existence of a contract between Three and O2, and the willingness of at least one other operator (Vodafone) to provide national roaming on terms similar to those agreed between Three and O2. In addition, Ofcom found that there was no operator with SMP in either the wholesale or retail mobile market.

France does not regulate national roaming, but is currently acting to end commercial roaming agreements in order to encourage investment

Market summary

- There are four mobile operators in France: Orange, owned by France Telecom (35% of subscribers), SFR (29%), Bouygues (19%), and Free (17%)
- In addition, there are at least 36 MVNOs, with 14.4 million subscribers (out of 68.7 million)
- Free is the last entrant to the market, launching commercial services in 2012.

Regulatory summary

- The telecoms industry in France is regulated by ARCEP, which is responsible for both spectrum allocation and competition regulation
- France currently uses the EU regulatory regime. This is a General Authorisation regime in which operators do not need a licence. Markets are defined in advance and regulated on the basis of whether an operator has significant market power (SMP)
- Spectrum is allocated in France on a national basis
- Whilst roaming is not regulated, there is a single shared network covering remote areas of the country (known as the “zone blanche”)

National roaming regulations

- There are two commercially negotiated national roaming contracts in place. Free, who entered the market in 2012, has an agreement to roam on Orange’s network. Bouygues and SFR have a commercial national roaming agreement for 4G services only.
- When Free entered the market in 2012, it’s spectrum licence contained conditions under which it could agree a 2G roaming agreement with another operator. Free was permitted to agree a national roaming agreement provided it had deployed 25% coverage of the population; any roaming agreement would be limited to six years. On entry, Free negotiated both a 2G roaming agreement and a 3G roaming agreement with Orange. The 2G agreement is time bound as required by the licence. The 3G agreement is purely commercial and is not time-bound.
- A new law introduced in 2015, the ‘Loi Macron’, has empowered ARCEP to intervene in these commercially negotiated contracts. In January 2016 ARCEP held a consultation on national roaming, proposing to gradually terminate all roaming agreements by 2018. ARCEP proposed that the termination process for the Free / Orange agreement should start before the existing contract expires, with 3G roaming between Free and Orange scheduled to end between 2018 and 2020. For 2G (voice, SMS and data) service the termination date should be between 2020 and 2022. In regards to the SFR/Bouygues Telecom agreement, ARCEP stated that the deal should be terminated between 2016 and 2018. In these cases, ARCEP cited the encouragement of investment as the main justification for intervening to terminate the agreements.
- ARCEP stated national roaming “dis-incentivises investments”, and “investment in 4G infrastructure is vital for the market”.

Norway regulates national roaming to facilitate new market entry; prices are subject to controls but are higher in rural areas

Market summary

- There are three mobile operators in Norway, although the market is dominated by the two largest:
  - Telenor with 57% market share
  - Telia with 39%
  - Ice.net with 4%
- Ice.net entered the market in 2007 as a broadband operator. However, in 2015, it acquired the mobile network assets of Tele2, which had tried and failed to enter the market due to the failure to win any spectrum assets in the 2013 merger. Ice.net is therefore a new entrant in the mobile market

Regulatory summary

- The telecoms industry in Norway is regulated by Nkom, which is responsible for both spectrum allocation and competition regulation
- Norway currently uses the EU regulatory regime. This is a General Authorisation regime in which operators do not need a licence. Markets are defined in advance and reviewed to determine if they should be regulated
- Spectrum is allocated in Norway on a national basis

National roaming regulations

- National roaming regulations are imposed on the incumbent in Norway in order to assist new entrant Ice.net, and to help them build out their network. Nkom has said “there is no doubt that the roll-out of a mobile network of sufficient size…represents a significant entry barrier”, and that “national roaming is primarily suited to enabling buyers of national roaming to increase their investments in mobile networks…and thereby achieve the objective of…a third competitive mobile network“.
- Telenor, the incumbent, must accept all reasonable requests for national roaming, at a price that is published in a reference offer and regulated through a margin squeeze test. However, Nkom has set out that prices are expected to be higher for more rural and remote areas than for more urban areas. This is in recognition that, in order to encourage investment, wholesale prices should be set at a level that takes account of the cost of carrying traffic in the specific area where roaming is occurring. A single blended price would dis-incentivise investment in more rural areas, as the wholesale price would be significantly below the cost of building more remote network coverage. The latest regulations specify that access prices for using less than 50% of its traffic as national roaming would be 1.2 times the national average (margin squeeze free) price, and using less than 20% of its traffic as national roaming would be 1.9 times the national average price.
- The structure of the mobile market in Norway is unique, with two large operators, and one very small one. Norway has a large land-mass, with population concentrated in the south of the country. There are large areas of remote countryside with sparse populations and difficult radio conditions. The economics of remote coverage are similar to Australia.

Italy regulates national roaming to facilitate market entry; regulations are light touch and time limited

Market summary

- Italy currently has four mobile operators: Telecom Italia with 35% of subscribers, Vodafone with 28%, Wind with 25%, and Three with 12%
- Wind and Three have recently announced their merger. A condition of this is sale of spectrum and network assets to new entrant, Iliad. Iliad has yet to launch commercial services
- There are 20 MVNOs in Italy with 7 million customers, the largest being Poste Mobile with 3.5 million

Regulatory summary

- The telecoms industry in Italy is regulated by Agcom, which is responsible for both spectrum allocation and competition regulation
- Italy currently uses the EU regulatory regime. This is a General Authorisation regime in which operators do not need a licence. Markets are defined in advance and regulated on the basis of whether an operator has significant market power (SMP)
- Spectrum is allocated in Italy on a national basis

National roaming regulations

- National roaming is regulated in Italy. It is time bound and light touch in most cases and is aimed at new entrants.
- Wind and Three recently merged. A merger approval condition imposed by the European Commission has required the new entity to sell spectrum and network assets to new entrant, Iliad, and to allow a transition access agreement until the new entrant has built its own mobile network. This amounts to a time-limited, commercially negotiated national roaming agreement which has been approved by the supra-national regulatory body (the EC).
- There have been several rulings ("Delibera") imposing national roaming. In 1999, under Delibera 69/99, national roaming was regulated for a third GSM operator. Customers of this operator were given the right to roam on the networks of the other two operators for 18 months after commercial launch. Wholesale prices were regulated on a cost-plus basis only for the incumbent operator, Telecom Italia.
- In 2000, 3G licences were awarded. Under Delibera 388/00, national roaming obligations were imposed on existing operators who won 3G licences. These were required to offer national roaming to a new entrant for 30 months on a commercially negotiated basis (except if SMP was found, when prices would be regulated).
- Finally, in 2008, new spectrum was awarded, and 900MHz spectrum was re-farmed away from 2G. Operators awarded new spectrum, or allowed to re-farm existing 900MHz spectrum, must offer new entrants national roaming services for 30 months. Terms must be non-discriminatory and transparent, but may be commercially negotiated.

Germany does not regulate national roaming as there are three operators who would be willing to provide commercial wholesale services

Market summary

- There are three mobile operators in Germany: Telefonica with 39% of subscribers, T-Mobile with 33%, and Vodafone with 28%.
- The market has seen some M&A activity, with Telefonica acquiring E-Plus in 2014. To gain regulatory approval, the new operator was required to offer a proportion of network capacity to MVNOs
- Germany is the largest MVNO market in the world, with approximately half of subscribers (54.6 million) using an MVNO

Regulatory summary

- The telecoms industry in Germany is regulated by the FNC, which is responsible for both spectrum allocation and competition regulation
- Germany currently uses the EU regulatory regime. This is a General Authorisation regime in which operators do not need a licence. Markets are defined in advance and regulated on the basis of whether an operator has significant market power (SMP)
- Spectrum is allocated in Germany on a national basis

National roaming regulations

- National roaming is not regulated in Germany. The key reason for this is the existence of competition in the wholesale mobile market. There is one commercially negotiated national roaming deal, between O2 and T-Mobile.
- In 2007, the FNA reviewed the market for mobile services in Germany. The FNA noted that the national roaming market in Germany was unusual, as T-Mobile was the only service provider and O2 constituted the sole source of demand. The reason for this was the fact that O2's GSM license had stipulated a coverage requirement of 75%, which caused O2 to enter into a national roaming agreement with T-Mobile in 1992. The FNA decided that, despite T-Mobile having a market share of 100% in the market for national roaming, regulation was not necessary, as three other mobile network operators possessed spectrum licenses which would allow participation in the market. The FNA therefore judged that, if T-Mobile were to try and raise prices, O2 would be able to enter into agreements with either Vodafone or E-Plus, as either of these networks constitute substitutes for the T-Mobile network.

Austria regulates national roaming on a light touch basis as a response to new market entry and new spectrum allocations

Market summary

- There are three mobile operators in Austria: A1 Telekom Austria, with 40% of subscribers, T-Mobile with 32%, and Three with 28%
- There has also been recent M&A activity, with Three Austria acquiring Orange Austria in 2013. The new operator was required to offer services to MVNOs at a regulated price
- MVNOs are significant in Austria, with 3.3 million out of 13.5 million customers

Regulatory summary

- The telecoms industry in Austria is regulated by two bodies: the RTR and the TKG.
- Austria currently uses the EU regulatory regime. This is a General Authorisation regime in which operators do not need a licence. Markets are defined in advance and regulated on the basis of whether an operator has significant market power (SMP)
- Spectrum is allocated in Austria on a national basis

National roaming regulations

- Austria is another example of a country with national roaming introduced to facilitate a new entrant. As in other countries, Austrian national roaming regulations are time-bound and "light-touch".
- In 2000, when 3G licences were allocated in Austria, the regulator introduced national roaming to facilitate the entry of a new 3G operator (Three). The existing operators were required to offer national roaming to the new entrant. Prices, terms, and conditions could be commercially negotiated but must be non-discriminatory. The new entrant was required to cover 20% of the population in order to use the service. National roaming was limited to a period of four years, in order to encourage the new entrant to invest in coverage once it became established.
- Again, in 2013 and 2014, the regulator imposed regulation on national roaming. This was as part of the allocation of new 800MHz spectrum, and the re-farming of existing 900 and 1800 MHz spectrum. Existing operators who re-farmed were required to offer national roaming to new entrants for a period of six years. Roaming services must be offered on non-discriminatory commercial terms. There has not been a new entrant to the Austrian market since 2014 (although there has been M&A activity, without national roaming remedies), so national roaming services have not been taken up.

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