Appendix B: France

Overview			
ITIF Rank: 5			
Subscribers per Household[1]	0.54	Incumbent Government Owned	32.5%
Internet Users in Millions[2]	30.1	Local Loop Unbundling:[3]	
Internet Users per 100 Inhabitants[4]	49.57	Full Copper Loop	Yes
Average Speed in Megabits per Second (Mbps)[5]	17.6	Shared Copper Loop	Yes
Price Per Month of 1 Mbps USD PPP[6]	1.64	Bitstream	Yes
Percent of Urban Population[7]	76	Cable	No
Population Density per sq. km[8]	111	Fiber	No

Geography and Demography

France is a large country with a varied terrain of plains, valleys, hills, and large mountain ranges in the South and East. The country is more densely populated than the United States, at 111 people per square kilometer compared to 31,[9] but its percentage of urban population is not much less than in the United States (76 compared to 80 percent, respectively).[10] Yet, France has the second highest population in Europe, with 60 million people, second only to Germany, with 82.6 million people.[11]

Policy

Initially, the French government did not focus on funding broadband infrastructure and services, either in rural or in urban areas. In fact, the government's "e-Europe Plan 2005," established in 2000, envisioned that the private sector would take the lead role in broadband development.[12] Yet, by 2001 the government realized that market forces alone would not provide the level of broadband the government desired. Thus, the French government gave local authorities a greater role in the development of broadband infrastructure and mandated that the Caisse des Dépôts et Consignations (CDC, a government-owned bank) should be able to provide loans at reduced rates to local municipalities for broadband development. Nonetheless, the government at first stipulated that in order to receive these loans municipalities had to ensure fair, transparent and non-discriminatory access to rights of way and, while they could establish broadband infrastructure, they could not act as telecommunications operators.[13] In 2003, however, the French Parliament passed a law enabling local authorities to be telecommunications operators as long as there were no other available broadband providers.[14]

Rural Access

Several local governments in France have used loans from the CDC to develop broadband infrastructure in areas where there were no existing broadband providers. These include the governments of Oise, Pyrénées

Rural Access (*continued*)

Atlantiques, Loiret, and Alsace, which have established public network projects by leasing unbundled local loops and installing Digital Subscriber Line Access Muliplexers (DSLAM) to provide DSL broadband services to residents and businesses. In addition, in 2005 the European Commission co-funded with France an open broadband infrastructure network in Limousin that provided services to residential users, businesses, and public authorities. The Commission agreed to fund the project because it mainly – but not entirely – included rural and remote areas.[15]

Competition

When France Télécom launched asymmetric digital subscriber line (ADSL) broadband Internet access in 1999, the French regulator, the Authorité de Régulation des Communications Électroniques et des Posts (ARCEP) required the company to allow Internet service providers (ISPs) to lease its copper loops so that they could market their own broadband services (albeit with their own central office equipment).[16] One of the first companies to take advantage of this rule was an ISP created by Iliad (the company that provided the content for France's Minitel proprietary network system), called Free, which began offering Internet service in 1999 by leasing France Télécom's infrastructure, which allowed it to compete directly with France Télécom's ISP, Wanadoo (later renamed Orange). Unbundling followed in 2002 after protracted negotiations between the French government and France Télécom. By the end of 2004 France Télécom had unbundled 1.6 million lines (more than 25 percent of the 6.1 million ADSL lines in service).[17] Yet by 2006 the company still dominated the market with Orange at 49 percent of the broadband market, followed by Free at 19 percent, Neuf Cegetel at 18 percent, Alice and Club Internet with 7 and 5 respectively, and other small providers with 2 percent.[18] Moreover, France Télécom is working to gain more subscribers by adapting its local loop network for higher-speed broadband access by installing nodes closer to subscribers who otherwise would have been too far from the central office to get broadband.[19]

Unbundling appears to have fostered lower prices for consumers. While broadband pricing in France is within the EU average of $35-$40 per month, higher speed services using ADSL2+ offering around 20 mbps have gotten cheaper and can be found for as little as $20 (by neuf Cegetel – as opposed to a more common rate of $40-$55 per month.[20] Because of these price reductions, subscribers' average broadband Internet bills decreased by $2 from 2005 to 2006, going from $36 to $34.[21]

In addition to ordering France Télécom to unbundle the local loop, in 2005 ARCEP also required the company to give competitors bitstream access (allowing them to use France Telecom's ADSL equipment rather than investing in their own).[22] While France Télécom has extended DSL broadband access to 98 percent of French residents, only about 26 percent have access to broadband via cable.[23] Cable broadband services have lagged behind ADSL perhaps because until recently France Télécom dominated the French cable market via its cable subsidiary France Télécom Cable (of which it sold the infrastructure only in 2005), as well as through its investments in other large cable companies, including 28 percent of Noos (which it sold in 2004).[24]

Fiber

The French government encouraged fiber rollout by proposing measures in December 2007 to require new buildings to be pre-equipped for fiber and to require operators to share the networks they install inside buildings.[25] Yet, providers—particularly France Télécom and Illiad—are driving fiber deployment in France. There France Télécom, via Orange, its service provider, offers fiber-to-the-home (FTTH) in Paris and will expand its services to 1 million homes in 12 other cities by the end of 2008.[26] Moreover, since August 2007, France Télécom's primary

Fiber (*continued***)**

rival Illiad (via Free, its service provider) is offering 100 Mbps of service through its own fiber to the premises (FTTP) infrastructure but almost exclusively to apartment buildings. As of 2007 Illiad/Free offered FTTH to 241,000 homes versus 146,000 for France Télécom/Orange.[27] Neuf Cegetel provides access to 120,000 homes.[28] Numericable, the largest cable provider (formerly owned by France Télécom) provides broadband access via cable to 2 million households.[29]

Demand

The French government has not been directly involved in supporting the development of broadband content to spur demand. However, the growing ubiquity of broadband access has encouraged providers to bundled services, particularly telephony, Internet access, and television. In addition, many residential users have been able to access video-on-demand (VoD) and TV over broadband since 2004.[30] The popularity and availability of these services has, in turn, driven demand for higher rates of broadband access.

ENDNOTES

1. OECD measures penetration on a per capita basis because comprehensive data on household penetration is generally unavailable. ITIF has used average household size as a multiplier to convert June 2007 OECD per capita penetration data to household penetration data. It should be noted that one problem with this method is that the OECD data likely also includes some DSL business subscribers.

2. International Telecommunications Union, "Internet Indicators: Subscribers, Users, and Broadband Subscribers," International Telecommunications Union ICT Statistics Database (ITU, 2006) <www.itu.int/ITU-D/icteye/Indicators/ Indicators.aspx#>.

3. Unbundling is a policy by which regulators require incumbent telecommunications operators (those with dominant market status who control access to the telecommunications infrastructure) or cable companies to give their competitors access to raw copper pairs, fiber, or coaxial cable networks so that they can install their own transmission equipment at the incumbent's central office (local exchange). *Full unbundling* requires the incumbent to make all copper pair frequencies or fiber networks available to competitors. *Shared access* to the local loop requires the incumbent to make the "high" frequency bands (those that carry data, but not voice) of the copper pair available to its competitors, allowing them to offer xDSL broadband services. *Bitstream access* requires incumbent operators to allow competitors access to the incumbents' equipment at their central office. *Cable access* enables competitors to use cable companies' coaxial cable local loops and fiber access requires telecommunications operators to give competitors access to their fiber local loops.

4. International Telecommunications Union, "Internet Indicators: Subscribers, Users, and Broadband Subscribers," International Telecommunications Union ICT Statistics Database (2006) <www.itu.int/ITU-D/icteye/Indicators/ Indicators.aspx#>.

5. Our methodology for calculating broadband speed in the ITIF Broadband Rankings involves averaging the speeds of the incumbent DSL, cable and fiber offerings provided in the OECD's April 2006 "Multiple Play," report, with each assigned a weight according to that technology's respective percentage of the nations overall broadband subscribership, as reported in the OECD's "Broadband Statistics to December 2006."

6. USD price per bit (PPP) of the fastest available technology is calculated from the broadband offerings examined in the OECD's "Multiple Play: Pricing and Policy Trends" report.

7. The World Bank, "Information and Communications for Development 2006," (2006): 172.

8. United Nations, "World Population Prospects: The 2006 Revision Population Database," 2007 <esa.un.org/unpp/>.

9.   Ibid.

10. The World Bank, "Information and Communications for Development 2006," (2006): 194.

11. Arsyllfa Band Eang Cymru-Broadband Wales Observatory, "An Overview of the Broadband Market: France," (Wales, United Kingdom: 2005): 1.

12. OECD, "Working Party on Telecommunication and Information Services Policies: The Development of Broadband Access in Rural and Remote Areas," Directorate for Science, Technology, and Industry, Committee for Information, Computer and Communications Policy (Geneva, Switzerland: May 10, 2004): 23.

13. Ibid.

14. Ibid: 24.

15. Ibid: 10.

16. Ibid.

17. Ibid: 47-49.

18. Ibid: 7.

19. Ibid: 285.

20. Ibid: 5.

21. Authorité de Régulation des Communications Électroniques et des Posts, ARCEP's Annual Report 2006 (July 2007): 173.

22. Ibid: 61.

23. Ibid: 2.

24. Numericable has since bought Noos. Martin Fransman (ed.) *Global Broadband Battles: Why the U.S. and Europe Lag While Asia Leads* (Stanford, California; Stanford Business Books, 2006): 179.

25. Le Journal du Net, "Le Gouvernement Veut Accélérer le Déploiement de la Fibre Optique en France," December 14, 2007 <www.journaldunet.com/ebusiness/telecoms-fai/actualite/0712/071214-comite-de-pilotage-du-haut-debit-herve-novelli.shtml>.

26. Kurt Ruderman, "France Telecom Plans Massive FTTH Roll-out in 2009," *Lightwave Europe*, January 2008 <http://lw.pennnet.com/display_article/321309/63/ARTCL/none/none/1/France-Telecom-plans-massive-FTTH-roll-out-in-2009/>.

27. IDATE, "FTTH Situation in Europe," *IDATE News 407* (February 27, 2008): 1.

28. Ibid.

29. Ibid.

30. Arsyllfa Band Eang Cymru-Broadband Wales Observatory, "An Overview of the Broadband Market: France" (2005): 1.