

Risk Management

Impact of inflation, as well as interest and exchange rate fluctuations, and preventive measures:

1. Impact of interest rate fluctuations

Interest rate fluctuations had a minimal impact on TWM's 2012 short-term bank borrowings, as interest rates remained low because of the global economic slowdown. The Company issued a straight corporate bond in 4Q12 to lock in mid-to-long-term interest rates and minimize impacts from interest rate fluctuations.

2. Impact of exchange rate fluctuations

The Company's main service area is Taiwan. Except for its international roaming business, all operating revenues are denominated in NT dollars. However, some of the Company's expenditures are denominated in euros and US dollars. To minimize the impact from foreign exchange rate fluctuations, the Company hedges risks through foreign exchange spot market transactions. Overall, exchange rate fluctuations had a minimal impact on the Company.

3. Impact of inflation

Inflation had a minimal impact on the Company's operating performance in 2012 and up to the publication date.

Investment policy and reasons for gains & losses for high-risk/high-leverage financial products, derivatives, loans to others and guarantees of debts:

1. The Company was not involved in any high-risk, high-leverage financial investment.
2. The Company passed the "Rules and Procedures on Lending and Making Endorsements/Guarantees" to supervise its financing and endorsement activities. As the counterparties in its loans and guarantees are all its subsidiaries, there is minimal operating risk.
3. Derivatives transaction: None.

Research and development plans

Project name	Objective	Status	Completion date
Automated system for notifying and reporting security incidents to National Communications Commission	Develop an automated system to streamline the process for detecting and responding to security incidents in line with NCC requirements	Working on system implementation	Oct. 2013
Roaming file upgrade	Upgrade international roaming file specs to work with future LTE service	Working on system design	Dec. 2013
Billing system upgrade	Upgrade hardware for billing system to manage an increasingly complex pricing structure and enhance data performance	Working on system design	June 2014
EBG sales incentive/sales performance evaluation system	Develop an automated system for evaluating sales incentives and performance to increase sales operating efficiency in response to changes in distribution/channel systems	In progress	Dec. 2013

Project name	Objective	Status	Completion date
Cloud IDC and cloud services	Construct a new generation green internet data center (IDC) for various cloud services through cooperation with upstream and downstream companies	Working on system development	Sep. 2013
Near field communication (NFC)	Set up a joint venture with other major Taiwanese operators to build a common trusted service management (TSM) platform to enable NFC applications	Conducting joint-venture discussions	Dec. 2013

Regulatory changes

1. Revision of digital convergence regulations

(1) Status

The "digital convergence development program" approved by the Executive Yuan is divided into two stages. The first stage involves promoting cross-media convergence services, solving urgent problems relating to other laws or regulations that might hinder its implementation and cross-industry barriers. The second stage focuses on creating a new environment to facilitate digital convergence, overcoming the obstacles left from the first stage and establishing a management structure with layers of networks, platforms and content.

For the first stage, the NCC started working on the amendments to the Satellite Broadcasting Act, the Radio and Television Act, the Cable Radio and Television Act and the Telecommunications Act in 2010. The proposed amendments to the first three acts are currently under review by the Legislative Yuan, while the draft revision to the Telecommunications Act was returned by the Executive Yuan to the NCC for changes amid concern over "functional separation."

The NCC has completed changes to the proposed revisions to the Telecommunications Act and will submit the draft to the Executive Yuan for review. The NCC has provided two scenarios for the Executive Yuan to choose from: Scenario A, maintain the original provisions on functional separation; and Scenario B, separate accounting for dominant market player on local loops. The leasing price offered to other operators should be based on the following principles: cost-based pricing, non-discriminatory and rental price should not be higher than a certain percentage of the retail price.

(2) Countermeasures

The Company is closely monitoring the progress of the amendments and continues to communicate with and forward suggestions and recommendations concerning related policies and regulations to the NCC.

2. NCC switches focus to regulating interconnection charges

(1) Status

Following the example of other developed nations, the NCC switched from regulating retail service charges to managing intermediate costs among telecom carriers to ensure fairer competition. Tariff reductions based on the formula ΔCPI (Consumer Price Index) - 5.1749% were applied to the dominant market player's fixed-line services, including domestic leased line, xDSL circuit monthly fee and FTTx circuit monthly fee (excluding FTTH and FTTB), as well as other wholesale services, for four years in a row. As for mobile operators, mobile tariffs were based on the formula $\Delta\text{CPI} - X$, where $X = \Delta\text{CPI}$, which effectively ruled out price increases.

The NCC also introduced mandatory mobile termination rate (MTR) cuts, requiring all 2G and 3G operators to reduce tariffs by a compounded annual rate of 14.5% over four years beginning on Jan. 5, 2013. From 2013 to 2016, interconnection rates will fall to NT\$1.84, NT\$1.57, NT\$1.34 and NT\$1.15 per minute respectively. For international call termination rates, the NCC left it to operators to negotiate among themselves.

(2) Countermeasures

As developed countries no longer regulate mobile retail tariffs, the NCC's focus shift toward managing wholesale tariffs will reduce the impact of mandatory retail tariff cuts on the Company's revenue.

3. Auction of mobile broadband spectrums

(1) Status

On September 28, 2012, the Executive Yuan announced measures governing Type I telecommunications enterprises, including their operating scope, timetable for deregulation and number of operators. As part of its plan to open up mobile broadband business opportunities, the commission will release three sets of spectrums on 700MHz, 900MHz and 1800MHz in December 2013. It held a public hearing on the planned mobile broadband auction and licensing on February 4, 2013, and to gather public opinion on the issue.

(2) Countermeasures

With the NCC planning to release mobile broadband business licenses by end of 2013, the Company is studying ways and means to win a new spectrum and license to be able to continue providing consumers with premium mobile communications services. In line with the trend toward digital convergence, the Company will also continue introducing innovative services to create a satisfying user experience.

4. Laying the groundwork for free IP peering

(1) Status

In September 2012, the NCC proposed adding a clause focusing on IP peering to the "Regulations Governing Network Interconnection among Telecommunications Enterprises" to eliminate unfair competition and lay the groundwork for free IP peering.

(2) Countermeasures

The NCC is still working on the proposed amendment. If the Company gets free IP peering with Chunghwa Telecom, the Company would be able to save tens of millions in IP peering expense paid to Chunghwa Telecom and would enhance its competitiveness in the mobile broadband market, IDC, cloud computing and related broadband value-added services. The Company will continue to promote the establishment of a fair and reasonable internet free peering mechanism to cope with future developments.

5. Rezoning of CATV service areas

(1) Status

On July 27, 2012, the NCC announced plans to expand the CATV service areas based on city/county and to open license applications to new entrants. As of press time, New Taipei City has filed three applications, Greater Taichung two and Taipei City one. The NCC is reviewing the applications.

(2) Countermeasures

Bound by the restrictions on indirect government ownership, the Company cannot apply for a license to operate in the new CATV service areas. With the threat of new competition, the Company is integrating its mobile, fixed-line, CATV and digital content to provide users with more digital convergence services, accelerating digitization services and offering more HD channels to enhance customer satisfaction in order to mitigate the impact of the CATV rezoning.

6. Legislative Yuan reviewing ban on media investments by political interests

(1) Status

The Executive Yuan approved a draft amendment to the Cable Radio and Television Act that will allow a company in which the government indirectly holds less than 10% of its shares to invest in the media industry. The threshold was

lowered to 5% by the legislature's Transportation Committee. The amendment still has to be approved by the Legislative Yuan.

(2) Countermeasures

The relaxation on indirect government ownership will help ease the restrictions preventing the Company from venturing into other CATV service areas, giving the Company more flexibility in managing its business. The Company will be closely monitoring the progress of the proposed amendment and continue to communicate with and forward suggestions and recommendations concerning related policy and regulations to the Legislative Yuan.

7. NCC drafting bill on preventing monopolies and promoting diversity in media

(1) Status

Following several controversial deals in recent years, public calls for a media anti-monopoly bill have intensified amid concern that the nation's media outlets may soon be controlled by a few powerful groups. The Legislative Yuan asked the Executive Yuan to submit a draft media anti-monopoly bill before March 22, 2013. In February, the NCC released a draft on preventing monopolies and promoting diversity in the media industry, seeking to regulate the horizontal and vertical integration among broadcasting media businesses and the cross-industry integration of print and broadcasting media businesses.

(2) Countermeasures

The drafting of the media anti-monopoly bill is still in the initial stage due to differences in opinion among academics, politicians and the public. Legislative approval will also take time, as the government and ruling and opposition lawmakers seek a consensus. The Company is closely monitoring the progress of the amendments and continues to communicate with and forward suggestions and recommendations concerning related policies and regulations to the Legislative Yuan to ensure a room for future development in the media industry.

Technology changes and development

1. Wireless Broadband Access (WBA)

(1) Status

WBA is a communications technology based on orthogonal frequency division multiplexing (OFDM). WiMAX is one of the examples of OFDM technologies and is capable of providing speeds of up to 10 Mbps on 3G's 5MHz equivalent frequency bandwidth. All six local WiMAX operators have launched regional services one after another since 2Q09. To date, WiMAX has had minimal impact on 3G voice and data revenue because of its limited network coverage. However, with WiMAX operators pursuing mergers since 2011, they may be able to reduce their network installation and operating costs, potentially increasing their threat to 3G operators.

(2) Countermeasures

3.5G technology for high-speed packet access plus (HSPA⁺) is mature and has been commercialized. The speed of the connection throughput for HSPA⁺ already surpasses that of WiMAX technology and is a more commercially competitive technology.

TWM has aggressively deployed 3.5G technology since late 2007, and has offered 14.4Mbps wireless broadband services in urban areas since 2009. In 2010, The Company added more 7.2Mbps and 14.4Mbps base stations. In 2011, it started to introduce HSPA⁺ high-speed mobile internet services in five major metropolitan areas. In 2012, TWM further expanded its HSPA⁺ coverage. LTE has become the choice of 4G technology by mobile operators and industry globally. In Taiwan, the NCC has announced plans to release new spectrums for LTE by the end of 2013. The Company has received NCC approval and plans to conduct LTE field trials in 2013.

2. Rising popularity of internet protocol

(1) Status

The popularity of internet protocol (IP) has revolutionized the telecommunications business and network infrastructure, giving rise to increased IP-based communications traffic. IP-based telecom is able to simplify network infrastructure, translating into big savings on operating costs. This trend accelerated the use of IPv4 addresses, which is near exhaustion worldwide, and made IPv6 migration an urgent need in the future. On the other hand, not only has the increasing availability of cheap or free VoIP services had a great impact on traditional fixed-line operators' long distance and international voice call revenue, free mobile IP messaging services even caused a decline in SMS traffic during the New Year holidays in 2012 and 2013.

(2) Countermeasures

The necessity of building an IP core network infrastructure based on next generation network (NGN) is an urgent task. TWM has been building the latest IP-based optical core network and has started to deploy IP core access and transmission technologies. It is also conducting laboratory tests of various IPv6 testing (IOT), VoIP and IP messaging application services to lead industry development.

The Company is developing and testing new IPv6 technology and new IP application services, and conducting research on the latest optical packet carrier ethernet technologies to introduce more services that provide households with the most advanced and innovative broadband services. In addition to closely monitoring the free VoIP and IP messaging traffic trends, the Company launched its own free IP messaging service, M⁺, in 2012 to satisfy customers' real-time social communication needs, as well as proactively participate in the new over-the-top (OTT) service model.

3. Digital convergence and cloud services

(1) Status

Because of the digitalization trend, the transmission and exchange of related digital content and services among different carriers, systems and platforms have brought about changes in wired and wireless communications and broadcasting industries. This has not only promoted competition and integration of the two industries, but also facilitated an industry consolidation. The digitalization of terrestrial TV, which went into force on July 1, 2012, is expected to accelerate the development of digital convergence services. As such, cloud computing technology and service – the base of digital convergence – have progressed from merely a concept to a profitable business, and should be the future trend.

(2) Countermeasures

Merging Taiwan Fixed Network (TFN) and Taiwan Telecommunication Network Services (TTN) in 2007 enhanced the Company's status as a leader in the digital convergence era. TWM had integrated the group's resources to facilitate research and development in digital convergence and launched fixed-mobile convergence (FMC) services for corporate accounts. It is also aggressively planning new digital convergence services that will integrate cable TV, digital TV, cable broadband, and interactive entertainment services. At the end of 2010, the Company launched its four-screen-and-a-cloud digital convergence service, integrating handset, PC, tablet and TV. Not only was TWM the first to introduce the services in Taiwan, it was also an industry pioneer in Asia. In 2011, TWM invested in the construction of an internet data center (IDC) for cloud services to provide infrastructure as a service (IAAS), enabling TWM to launch additional intelligent cloud services in four key areas – mobile life, digital content, intelligent life and intelligent enterprise in the future.

4. Popularity of mobile smart devices and femto/WiFi technologies

(1) Status

The popularity of the iPhone, Android phone and other mobile smart devices has dramatically boosted the growth of 3G data usage. This has forced global mobile operators to expand their 3G access networks' backhaul bandwidth and network capacity, which in turn has increased the pressure on their operating costs. Many mobile operators have started building WiFi networks and femtocells to offload 3G data traffic.

(2) Countermeasures

In 2012, the Company continued expanding the backhaul bandwidth and network capacity of its HSPA network as well as WiFi coverage, and has started providing WiFi service to selected customers. In 2013, the Company will continue to deploy more WiFi networks and start femto cell deployment and trials in line with NCC regulations.

Impact of changes in brand image on the Company's risk management policies:

None. TWM has long built up a sound image among investors and customers for its continuing efforts to enhance corporate governance, network communication quality and customer service, as well as to fulfill its corporate social responsibility. These efforts won numerous recognitions and awards in 2012 (please refer to Chapter 1) and should aid the Company in preventing, controlling and managing latent risks that it may face and help it maintain its good corporate image.

Expected benefits and risks from mergers in recent years until publication date: None.

Expected benefits and risks related to plant facility expansions: Not applicable as the Company is not a manufacturer.

Risks from supplier and buyer concentrations in recent years until publication date

The Company's main supplier provides handsets and 3C products. To diversify supplier risk, the Company has been increasing procurements from other handset vendors to reduce its reliance on the main supplier.

On the revenue side, the Company's main customer contributes to interconnection revenue, but since the Company has a very diverse subscriber base for its mobile services, there is no buyer concentration risk.

Significant changes in shareholdings of directors and major shareholders: None.

Changes in management controls: Not applicable.

Significant lawsuits and non-litigious matters

1. The Company: None.

2. The Company's directors, general manager, any person with actual responsibility with the Company, any major shareholder holding greater than 10 percent of the Company's shares: None.

3. The Company's subsidiaries

(1) Globalview Cable TV Co., Ltd., Union Cable TV Co., Ltd., Yeong Jia Leh Cable TV Co., Ltd. and Phoenix Cable TV Co., Ltd., (collectively referred to as the "four SOs")

The NCC fined the four system operators (SO) NT\$100,000 each and ordered them to divest indirect holdings by the Taipei City Government within one year after the ruling.

Parties Involved: The four SOs are the defaulting parties.

Grounds for Lawsuit:

The NCC ruled that the four SOs had violated Paragraph 4, Article 19 of the Cable, Radio and Television Act, which states that the government, political parties, as well as foundations established with their endowments, and those commissioned thereof, shall not directly or indirectly invest in cable, radio and/or television system operators. The four SOs disagreed with the NCC's administrative disposition fining them NT\$100,000 each and ordering them to divest indirect holdings by the Taipei City Government within one year after receiving the ruling (the "First Disposition"), and filed individual administrative appeals in 2010. The Executive Yuan revoked the First Disposition, but in June and July 2010, the NCC issued a new administrative disposition to each of the four SOs (hereinafter referred to as the "Second Disposition") with the same administrative penalty and conditions mentioned in the First Disposition. The four SOs disagreed with the Second Disposition and filed individual administrative appeals in July 2010. The Executive Yuan revoked the Second Disposition. Thereafter the NCC held a hearing for the said dispute on July 28, 2011, and issued a

new administrative disposition to each of the four SOs (“Third Disposition”) with the same administrative penalty and conditions mentioned in the First and Second dispositions to the four SOs in January 2012. The four SOs disagreed with the Third Disposition, and filed individual administrative lawsuits against the NCC. The Taipei High Administrative Court handed out several rulings revoking the dispositions issued by the NCC since June 2012. The NCC disagreed with the rulings and filed several appeals with the Supreme Administrative Court, which, in a final ruling, rejected all of the NCC’s appeals.

(2) Win TV Broadcasting Co., Ltd.

The NCC fined Win TV broadcasting Co., Ltd. NT\$200,000 as an administrative penalty and instructed it to dispose of indirect holdings by the Taipei City Government within one year after the ruling.

Parties Involved: Win TV is the defaulting party.

Grounds for Lawsuit:

The NCC ruled that Win TV had violated Paragraph 3, Article 9 of the Satellite Broadcasting Act, which stipulates that political parties, the government and foundations established with their endowments, and those commissioned thereof, shall not invest directly or indirectly in satellite broadcasting businesses. Win TV was fined NT\$200,000 as an administrative penalty and ordered to divest indirect holdings by the Taipei City Government within one year after receiving the administrative disposition (the “First Disposition”). Win TV disagreed with the First Disposition and filed an administrative appeal. The Executive Yuan revoked the First Disposition. The NCC issued a second administrative disposition (“Second Disposition”) in September 2010 with the same penalty and conditions as in the First Disposition. Win TV disagreed with the Second Disposition and filed an appeal. The Executive Yuan revoked the Second Disposition.

(3) Taiwan Kuro Times Co., Ltd. (“Taiwan Kuro”)

The Taiwan Intellectual Property Office (“TIPO”) issued an administrative disposition in response to Taiwan Kuro’s appeal for a review of the generalized licensing royalty rates announced by the Music Copyright Society of Chinese Taipei (“MUST”). Taiwan Kuro disagreed with TIPO’s disposition and filed an administrative appeal.

Parties Involved: Taiwan Kuro is the defaulting party.

Grounds for Lawsuit:

On December 19, 2012, TIPO issued an administrative disposition in response to an appeal filed by Taiwan Kuro on September 1, 2010, for a review of the generalized licensing royalty rates announced by MUST on August 12, 2010. TIPO stated that pursuant to Paragraph 6, Article 25 of the Copyright Collective Management Organization Act: “when there is sufficient reason for an application for review under Paragraph 1, the specialized agency in charge of copyright matters shall make a determination of the given royalty rate, which shall be effective from the date of application for review, provided that in the case of applications made prior to the date of implementation of a given royalty rate, the newly determined rate shall take effect from the date of implementation.” Taiwan Kuro disagreed with the generalized licensing royalty rates stipulated in TIPO’s disposition and filed an administrative appeal in January 2013.

Other major risks

Customer fraud management policy

1. Verification before activation

Applicants’ identity and qualifications are carefully reviewed and verified before service is activated.

2. Monitoring after activation

- (1) Exception management: Relatively “high-risk” applicants are filtered out by the system to protect users’ interests.
- (2) Credit control: The system analyzes customers’ behavior patterns to strengthen client management.
- (3) Wireless data service notification: Whether at home or overseas, a notification mechanism alerts customers about their mobile internet service usage. With the aid of the network traffic redirection (NTR) feature, introduced in 2011, users who have signed up for discounted international data roaming packages are automatically directed to their preferred network. For users who have not signed up for this service, they will be alerted and notified by text messages sent by the Company when they are using international data roaming.

Other significant items: None.