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Economic Development R.O.C. (Taiwan)



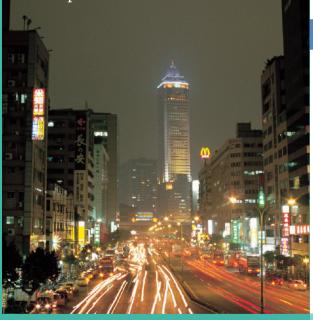
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Economic Development R.O.C. (Taiwan)



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Taiwan's Economic Development



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Taiwan's Economic Development Performance



Geographic Features and Natural Resources

Strategically located in the middle of a chain of islands stretching from Japan in the north to the Philippines in the south, and only 160 kilometers off the southeastern coast of the Chinese mainland, the island of Taiwan is a natural gateway to East Asia. Taiwan occupies an area of only 36,193 square kilometers, roughly equal to the size of the Netherlands. At mid-2011, its population stood at 23.19 million.



With 641 persons per square kilometer, Taiwan is one of the most densely populated areas in the world.

Three-quarters of the land is mountainous, with a spine-like ridge of steep mountains extending from north to south. About 60% of the land is forested, but forest resources are minimally exploited because of limited accessibility and environmental concerns. Even though only one-quarter of the land is arable, the subtropical climate permits multi-cropping of rice and growing of fruit and vegetables all year round. However, agricultural production accounted for only 1.8% of gross domestic product (GDP) in 2011.

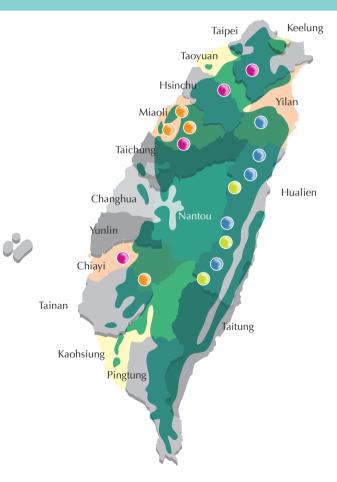
Although Taiwan does have deposits of coal, limestone, marble, dolomite, and natural gas, it is not richly endowed by nature. Indeed,



more than 99% of its energy needs are met by imports, and its rapid industrialization also has relied heavily on imports of raw materials. However, Taiwan has an ample supply of human resources, the effective cultivation of which has been the key to the successful development of the economy.

Taiwan's Economic Development Course

POPULATION & NATURAL RESO	(2011)	
TOTAL AREA	36,193	Km ²
TOTAL POPULATION (mid-year)	23,194	1,000 Persons
POPULATION DENSITY	641	Persons/Km ²
RESERVES		
COAL	103	Million M.T.
🔊 • NATURAL GAS	6	Billion M ³
• MARBLE	297	Billion M.T.
	110	Million M.T.
FOREST	357	Million M ³



Economic Development Success

Occupying an area roughly the same size as the Netherlands and with only four-thousandths of the global population, Taiwan over the past six decades has achieved a remarkable record of rapid economic growth, stable prices and equitable income distribution, thanks to the joint endeavors of its people and government matched by well tailored economic development strategies. This has come to be known around the world as the "Taiwan experience." Between 1952 and 2011, Taiwan's per capita GDP rose from US\$213 to US\$20,122; its GDP increased from US\$1.711 billion to US\$466.5 billion; and its foreign trade expanded from US\$303 million to US\$590 billion, the 18th largest worldwide. In the course of its development over the past six decades, Taiwan has successfully transformed from an agricultural society to a key

player in the global ICT industry. In 2011, Taiwan was a global top-three supplier of 36 industrial products and the world's number one supplier of 22, including mask ROM, motherboards, notebook computers, cable TV customer premises equipment (CPE), tablet PCs, personal navigation devices, foundry services & packaging, IC testing, electro-deposited copper foil, optical discs, and electric wheelchairs & mobility scooters. In its May 2005 cover story entitled "Why Taiwan Matters." BusinessWeek magazine highlighted Taiwan's vital role in the global technological supply chain, with the headline pronouncement that "The global economy couldn't function without it." The economic power attained by Taiwan is also demonstrated in its outward foreign

direct investment (FDI). As of year-end 2011,

Taiwanese FDI in ASEAN countries amounted to more than US\$70.9 billion, with Taiwan ranking as the third biggest foreign investor in Thailand and the fourth biggest in Vietnam. And as of 2011, Taiwanese investment in mainland China added up to US\$111.7 billion. According to UNCTAD's World Investment Report 2012, the accumulated stock of outward FDI from Taiwan reached US\$213.1 billion at the end of 2011, up 5.9 percent year on year. Ranking 21st in the world and 5th in Asia behind Hong Kong, Japan, mainland China and Singapore, Taiwan has become one of Asia's main providers of FDI, with its investment tentacles reaching worldwide.

Taiwan's Economic Development Course

At the end of 2011, the accumulated stock of outward FDI from Taiwan:

up



5th

in Asia

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	1952	2011	Average Annual Growth Rate (%)
Population (mid-year, million persons)	8.05	23.19	
GDP (US\$ million, at current prices)	1,711	466,483	
GDP (NT\$ billion, at constant prices)	226	14,782	7.3 (Economic growth rate)
Per capita GDP (US\$)	213	20,122	
Agriculture's share of GDP (%)	32.2		
Industry's share of GDP (%)	19.7	29.5	
Services' share of GDP (%)	48.1	68.8	
Exports (US\$ million)	116	308,257	
Imports (US\$ million)	187	281,438	
Foreign exchange reserves (US\$ billion)	10	385.6	

Sources: Directorate-General of Budget, Accounting and Statistics (DGBAS), Executive Yuan, ROC (Taiwan); Ministry of Economic Affairs (MOEA), Industrial Technology Information Service (ITIS) Program.

Products of which Taiwan was the World's Largest Supplier in 2011 (22 products)

Products (Including Offshore Production)	Taiwan's Global Market Share (%)
Mask ROM	100.0
Notebook PCs (including netbooks)	89.4
Cable TV CPE	87.0
Tablet PCs	84.1
Motherboards	80.4
Golf heads	78.7
DSL CPE	70.0
LCD monitors	69.2
Foundry	69.0
PND	67.1
WLAN	66.3
Optical discs	57.0
IC packaging and testing	55.2
Secondary battery pack assembly	46.0
Servers	44.3
Desktop PCs	43.6
Glass fiber	43.2
Electro-deposited copper foil	42.1
ABS	27.3
PCBs	27.1
Power wheelchairs & power scooters	22.7
Instant noodles	22.4

Strategies of Economic Development

A very important factor behind Taiwan's economic success has been pragmatic and flexible government policies - especially the promotion of social and political stability and the adoption of an outward-looking development strategy. And whenever new problems have arisen, timely, market-friendly policy initiatives have been undertaken to cope with them. Taiwan's economic development can be divided into six stages:

The 1950s: In Pursuit of Stability and Selfsufficiency

In the 1950s, top priority was given to economic stabilization and food production. The major tasks were to effectively utilize U.S. economic aid for development, and to make use of tariffs and import controls in fostering the development of domestic industry. A land reform program was introduced to encourage food production, stabilize food prices, and promote social stability. At the same time, the development of labor-intensive import substituting industries was encouraged in order to lessen dependence on imports and the need for foreign exchange.

The 1960s: Expanding Exports of Light Industry

In the 1960s, emphasis was placed on promoting labor-intensive and export-oriented industries to take advantage of low-cost labor and tap the potential of markets beyond Taiwan. Toward that end, the government



introduced reforms in foreign exchange administration and taxation, enacted the Statute for the Encouragement of Investment, and in 1966 established Taiwan's first export processing zone. Amid buoyant development of the world economy, Taiwan's exports increased rapidly, becoming the locomotive of its economic growth.

Taiwan's Economic Development Course

The 1970s: Developing Basic and Heavy Industries

By the end of the 1960s, rapid export expansion has stimulated strong domestic demand for machinery, equipment, and intermediate materials. Moreover, after many years of industrialization, Taiwan's industrial technology was more advanced, and favorable to a higher level of basic and heavy industry development. Hence, in the 1970s, the government actively carried out the Ten Major Development Projects to augment railway, airport, port, electricity and other basic infrastructure, and vigorously promoted the development of the petrochemical, steel, and other capital-intensive import-substitution intermediate industries. This strategy enabled Taiwan to effectively reduce its reliance on the

foreign supply of intermediate products and to speedily upgrade its industrial structure.

The 1980s: Economic Liberalization and Technology-Intensive Development

In the early 1980s the economy began to reap the benefits of trade-promotion policies, and an increasing surplus was recorded in foreign trade. To address growing imbalances in the economy, the government adopted economic liberalization and internationalization as new guiding principles for Taiwan's further development, and endeavored to bring market forces into full play. At the same time, Taiwan began to tap its ample capital resources to develop such capital- and technologyintensive industries as electronics, information, and machinery.

The 1990s: Booming Development of the IT Industry

Although rising wages forced labor-intensive industries to move offshore, Taiwan's highquality human resources and comprehensive industrial clusters furnished prime conditions for the booming development of the IT industry. This enabled Taiwan to smoothly transform and upgrade from ascendancy in the manufacture of umbrellas and toys to ascendancy in the manufacture of IT products. In 1993, it became the world's top producer of many IT products, supplying more than half of the global market for monitors, motherboards and image scanners. In 1995, Taiwan's IT industry became the world's third-biggest producer of IT hardware, and played an indispensable role in the global high-tech industry division of

Strategies of Economic Development (continued)

labor. Also in 1995, the government launched the Asia-Pacific Regional Operations Center (APROC) plan in a drive to enhance Taiwan's global logistics position and industrial level by developing it into an operations hub for manufacturing, transshipment and specialist services.

2000~2011: Industrial Remodeling and Global Linkage

In 2000, the government unveiled a new vision for pursuing knowledge-based, sustainable and just economic development, involving all-out investment in human resources, R&D innovation, logistics channels and the living environment, and focus on developing the semiconductor, image display, biotechnology, and digital content industries, with a view to raising the innovative capabilities of domestic industry and enhancing the people's quality of life. And on January 1, 2002, Taiwan was formally admitted as a member of the WTO, opening a new phase in the gradual international alignment of its economic and trade systems and the repositioning of the core competitive advantages of the Taiwan economy.

In 2008, to bolster Taiwan's economic fundamentals against the impact of the global financial crisis, the government set its focus on vigorously promoting infrastructure building, industrial remodeling, inward investment and global linkage, with the aim of using the three engines of consumption, investment and exports to uplift Taiwan's growth potential.

- 1. For infrastructure building, the government launched the i-Taiwan 12 Projects with the aim of creating a prime investment and living environment.
- 2. For industrial remodeling, the government has targeted the active promotion of six major emerging industries (including biotechnology, and travel & tourism), four emerging intelligent industries (including cloud computing and smart electric vehicles), and ten key service industries (including international medicine and urban renewal), and has set the focal strategy of promoting "four izations in three sectors of industry" (manufacturing industry servicization, service industry technologization and internationalization, and traditional industry featurization), as means of driving a new leap upward for Taiwan's industry.

Taiwan's Economic Development Course

- 3. To attract investment, the government has been carrying out the Invest in Taiwan initiative to spotlight Taiwan's most eyecatching investment opportunities, and with the aim of directing investment straight to the most appropriate localities, where it can create local jobs and spread the fruits of economic growth among the whole population.
- 4. The enhancement of Taiwan's global linkage is being pursued through the substantial improvement of cross-strait relations, yielding such gains as the opening of direct crossstrait transport and the signing of the crossstrait Economic Cooperation Framework Agreement (ECFA); and by a bold program of economic and financial reforms, including reductions of estate and gift taxes from a top 50% to a flat 10% and of business income

tax from 25% to 17%, to create a friendlier and more efficient business environment.

5. The launch of the Golden Decade National Vision Plan seeks to draw on the three key driving forces of innovation, openness, and structural adjustment, to create the growth path of a golden decade for Taiwan. In pursuit of the overall goals of prosperity, harmony, and sustainability, the plan sets out 31 main axles of policy implementation to achieve the eight main visions of a vigorous economy, a just society, clean and competent government, prime culture and education, a sustainable environment, comprehensive development, cross-strait peace, and international amity, in an exertevery-effort project to set national power on an upward trajectory.



Strategies of Economic Development (continued)

1950s



In Pursuit of Stability and Self-sufficiency

- · Introducing economic planning in 1953, after the completion of postwar rehabilitation
- · Implementing a land-reform program, stimulating agricultural production, and promoting economic stability
- · Developing labor-intensive import-substituting industries to reduce the trade deficit

1960s

1970s



Expanding Exports of Light Industry

- · Encouraging saving, investment, and exports
- Introducing new agricultural products
- Developing export-oriented industries and establishing export-processing zones

Developing Basic and Heavy Industries

- · Implementing the Ten Major Projects and improving infrastructure
- Establishing intermediate-goods industries
- · Developing basic and heavy industries



Taiwan's Economic Development Course



1980s

Economic Liberalization and Technology-intensive Development

- · Restructuring industrial production and expanding R&D spending
- · Pursuing economic liberalization and internationalization
- Expanding domestic demand to improve the trade imbalance

Booming Development of the IT Industry

- · Implementing the Six-Year National Development Plan to bolster infrastructure
- · Using the BOT approach to encourage the private sector to participate in public construction
- Promoting telecommunications liberalization
- · Balancing economic and social development to improve living quality
- Developing Taiwan into an Asia-Pacific Regional Operations Center



Industrial Remodeling and Global Linkage

- Actively implementing the i-Taiwan 12 Projects to bolster the nation's capital stock by expanding public investment and spurring private investment.
- Promoting industrial remodeling by developing six major emerging industries, four emerging intelligent industries, and ten key service industries.
- Speeding up global connection, and enhancing cross-strait and global logistics capabilities, through the signing of ECFA with Mainland China and other steps; and bringing national economic and trade systems into line with the world, to raise Taiwan's economic status.
- · Carrying out the Invest in Taiwan project, and drawing investment straight to localities to create local jobs.
- Implementing the Golden Decade National Vision Plan, with 31 main sets of measures for achieving the 8 visions of a vigorous economy, a just society, clean and competent government, prime culture and education, a sustainable environment, comprehensive development, cross-strait peace, and international amity, to create a golden decade of prosperity, harmony, and sustainability.

Economic Growth

From 1952 to 2010, Taiwan achieved an average annual economic growth rate of 7.5%, one of the fastest growth tracks of any country after the Second World War.

-1950s: After World War II, Taiwan actively set to work on post-war reconstruction. The government adopted a policy of "promoting agriculture to foster industry and utilizing industry to develop agriculture," carrying out land reform to boost agricultural production and fostering labor-intensive light industries to lay a basis for industrial development. These strategies helped spur the rapid take-off of Taiwan's economy, with the economic growth rate averaging 8.4% per annum during this period.

-1960s: With solid foundations for industrial development already in place, the government

turned its focus to developing export industries, and in 1966 set up Taiwan's first export-processing zone, pursuing a policy of export expansion as a means of spurring economic growth. During this period, the average annual economic growth rate reached 9.0%.

-1970s: Despite the impact of the two oil crises, which pulled down the economic growth rates in 1974 and 1979 to 1.86% and 8.01% respectively, the government put great energy into developing heavy and chemical industries and expanding infrastructure investment. These efforts enabled the economy to maintain a robust rate of expansion, with the economic growth rate averaging 10.1% during this period.

-1980s: The government took active steps to

loosen controls and protection in the economy, carrying out policies for the liberalization of finance and trade and the privatization of state-owned enterprises. And with the establishment of the first science-based industrial park in 1980, industry entered a trend of gradual development toward science and technology orientation. During this period, Taiwan's economy grew 7.7% annually

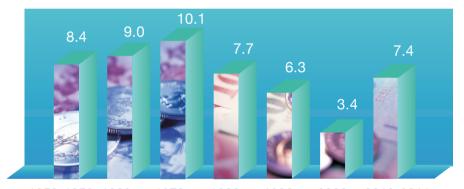


-1990s: As Taiwan's economy advanced steadily into the mature stage of development, per capita GNP broke above the US\$10,000 level in 1992. To satisfy the people's expectation for improving quality of life, the government set about an active program of investment in mass transit, freeway and expressway, environmental protection, and other such public construction projects, while striving to enhance the fundamental constitution of the economy. During this period, despite the impact of the Asian financial storm, Taiwan's economy still grew 6.3% annually.

-2000S: Despite having to contend successively with the bursting of the dotcom bubble and the September 11 terrorist attacks on the US in 2001, the SARS epidemic in 2003, and the global financial tsunami in 2008, continuous

Economic Growth

Annual rate of increase (%)



1952-1959 1960s 1970s 1980s 1990s 2000s 2010-2011 Source: Directorate-General of Budget, Accounting and Statistics, Executive Yuan, R. O. C.(Taiwan).

restructuring of industry toward a knowledgebased economy enabled Taiwan to achieve an average economic growth rate of 3.4% during this period. -2010 to 2011: Taiwan's economy recovered quickly to post an average economic growth rate of 7.4% during 2010-2011.

Price Change

Taiwan is one of the few countries that have been able to balance emphasis on both high economic growth and price stability. Except for during the two international oil crises, Taiwan's price fluctuations have been kept at a moderate level since the 1960s.

From the 1960s to the 1980s, the consumer price index (CPI) and the wholesale price index (WPI) recorded average annual rises of 6.4% and 4.0%, respectively. During the two energy crises (1973-74 and 1979-80), the CPI and WPI increased at average annual rates of 21.1% and 24.7%, respectively. Excluding these two oil-shock periods, the average annual increases of the two indexes were only 4.1% and 1.5%, respectively, marking Taiwan out as one of the world's most price-stable countries. In the 1990s, the active liberalization and

internationalization of Taiwan's economy, plus the entry of mainland China and other low labor-cost economies into the global production system, enabled production costs to be kept relatively low and prices to be kept at a steady level. During this decade, Taiwan's CPI and WPI rose by only 2.9% and 0.3%, respectively, per annum.

From 2000 to 2006, the WPI rose at an average annual rate of 2.3% due to the impact of increasing international commodity prices. But with the popping of the global IT industry bubble in 2000 causing consumer prices to fall for three consecutive years from 2001 to 2003, the CPI rose only 0.8% per annum during this period.

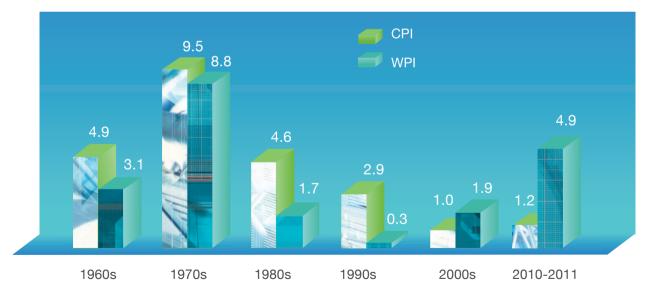
During 2007 to 2011, inflation flared up briefly under the impact of rising international



crude oil and raw material prices, but the government's active adoption of various price stabilization measures succeeded in restoring price stability. Over this period, Taiwan's CPI rose on average by 1.37% per year, the lowest of Asia's Four Tigers compared with Hong Kong's 2.89%, Singapore's 3.48%, and South Korea's 3.39%.

Change in Price Indexes

Annual rate of increase (%)



Source: Directorate-General of Budget, Accounting and Statistics, Executive Yuan, R. O. C.(Taiwan).

Income Distribution

Thanks to its rapid economic growth, Taiwan's per capita GDP soared from US\$213 in 1952 to US\$20,122 in 2011, breaking above the major US\$20,000 level. A particular distinction of Taiwan's racing growth is that it has been achieved with equal emphasis on fair income distribution. Currently, Taiwan has one of the fairest spreads of income distribution of any country in the world. In 2011, the highest quintile of income was just 6.17 times the lowest, a far smaller gap than the United



States' 9.59 (2009) and Singapore's 12.8, and less than Japan's 6.24.

From the 1950s to the 1970s, while per capita GDP shot up from US\$213 in 1952 to US\$2,385 in 1980, the implementation of land reform, compulsory education, tax reform, and other such policies ensured that income distribution continued to improve, with the gap between the top and bottom quintiles of income falling from 5.33 in 1964 to 4.17 in 1980.

From the 1980s to the 1990s, changes in economic growth and the industrial structure were reflected in a gradual widening of the income gap, though it still largely stayed at around 5.3 through the 1990s.

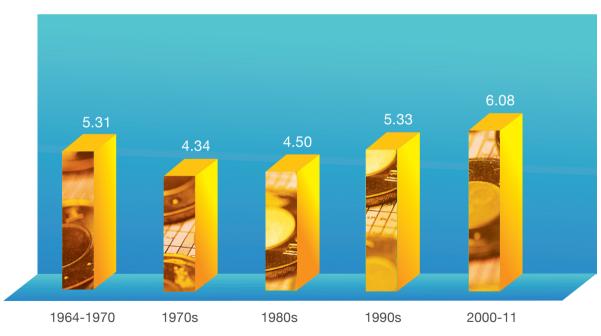
After 2000, the booming development of Taiwan's high-tech industries and the offshore migration of many labor-intensive industries



caused a deterioration of income distribution, with the top-to-bottom-quintile income gap rising to 6.39 in 2001. Thereafter, the government's timely introduction of various social welfare measures helped pull it back down to 5.98 in 2007. The effects of the global financial tsunami in 2008 caused the income gap to widen to 6.34 in 2009, but active government measures to counter this nudged it down again to 6.17 in 2011.

Income Distribution

(Ratio of income share of highest 20% to that of lowest 20%)



Source: Directorate-General of Budget, Accounting and Statistics, Executive Yuan, R. O. C.(Taiwan).

Production Structure

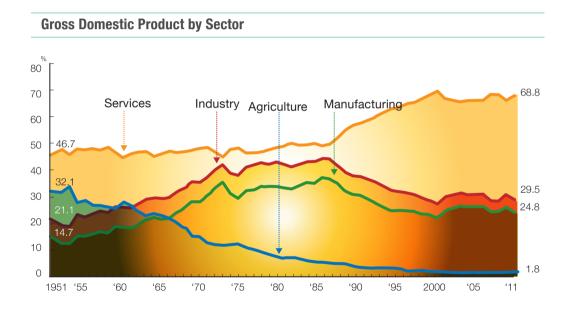
Over the past 60 years, Taiwan has completed in a remarkably short timespan a process that took advanced industrial countries one to two centuries to achieve, undergoing swift transformation from a postwar agricultural economy to a knowledge economy led by high-tech and specialized service industries.

Agriculture was the main driving force of Taiwan's economic growth in the early stage. In 1952, the agricultural sector generated 56.1% of Taiwan's employment, and 32.1% of its GDP. After the government adopted a policy of "promoting agriculture to foster industry and utilizing industry to develop agriculture," the industrial sector developed rapidly and agriculture's relative importance in the economy dwindled year by year. In 2009, the agricultural sector accounted for only 5.1% of Taiwan's employment and 1.8% of GDP.

The rapid industrialization of the economy is a main hallmark of the Taiwan experience. In the early 1950s, Taiwan's industry was limited mainly to the primary processing of agricultural and forest products. In the 1960s, the government began to set up export processing zones, utilizing low-cost labor and policy incentives to attract foreign capital and technology, and thereby spurring the speedy emergence of textile, umbrella, shoe and other labor-intensive light industries. In the 1970s, the government implemented the Ten Major Development Projects to lay a basis for the petrochemical, steel, shipbuilding and other heavy industries. Since the 1980s, Taiwan's manufacturing industry has seen a speedy transformation toward high-tech orientation, with its ICT industry gaining global renown. In 2011, the production value of Taiwan's integrated circuit (IC) industry reached NT\$1.56 trillion. Taiwan was the world's number one supplier of wafer foundry services and IC packaging & testing, with global output shares of 69.0% and 50.6%, respectively.

Since the mid-1980s, rising national living standards have spurred the booming

development of Taiwan's service sector, which accounted for 68.8% of GDP in 2011. To speed up service industry upgrading, the government has been vigorously promoting the Ten Key Service Industries, including internationalization of Taiwan's cuisine, Chinese-language e-commerce, and international medicine, while taking measures to boost R&D and innovation, enhance the fostering and recruitment of talent, strengthen inter-industry alliances, and so on, as means of building a first-grade operating environment for service industries, to raise the competitiveness of Taiwan's service enterprises and create more employment opportunities.



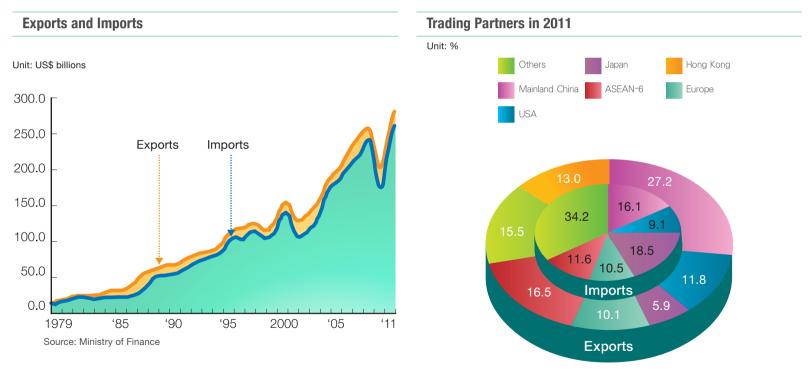
Source: Directorate-General of Budget, Accounting and Statistics, Executive Yuan, R. O. C.(Taiwan).

Trade

Surrounded by the sea, Taiwan has continuously sought outward development opportunities, seeking to expand trade links with other countries as a main driving force of its economic growth. Since the 1960s, with the government actively implementing exportoriented policies, external trade has grown rapidly. In 2011, Taiwan's total trade amounted to US\$589.70 billion (US\$308.26 billion in exports and US\$281.44 billion in imports), the 18th highest of countries and territories worldwide.

During the early 1960s, Taiwan's exports consisted mainly of processed agricultural products. As the country's level of industrialization has continued to rise, the share of industrial goods in exports has risen to 99%. Within this category, exports of heavy industrial goods have climbed from 32.3% of total exports in 1981 to 82.9% in 2011, with the share of electronic and IT related products increasing from 13.7% to 33.6% over the same period. On the import side, owing to Taiwan's lack of natural resources, agricultural and industrial raw materials have long made up the bulk of imports, accounting for 77.2% of total imports in 2011, followed by capital goods and consumer goods with shares of 14.0% and 8.8%, respectively.

The rapid progress of globalization and the global positioning of Taiwanese businesses have markedly changed the relative status of Taiwan's trading partners. On the export side, the United States had long been Taiwan's largest export market, but as cross-strait economic and trade relations have grown steadily closer, mainland China and Hong Kong have already supplanted the U.S. as Taiwan's primary export partners, receiving 29.6% and 10.6% of Taiwan's exports, respectively, in 2011 (with exports to Hong Kong mainly destined for re-export to the mainland). On the import side, up to 1994, Taiwan's complementary industrial links with the U.S. and Japan meant that these two countries always provided more than half of Taiwan's imports; but as of 2011, their combined share had fallen to just 27.7%, while the shares from mainland China and ASEAN countries had increased from 2.2% and 10.3% to 16.1% and 11.6%, respectively.



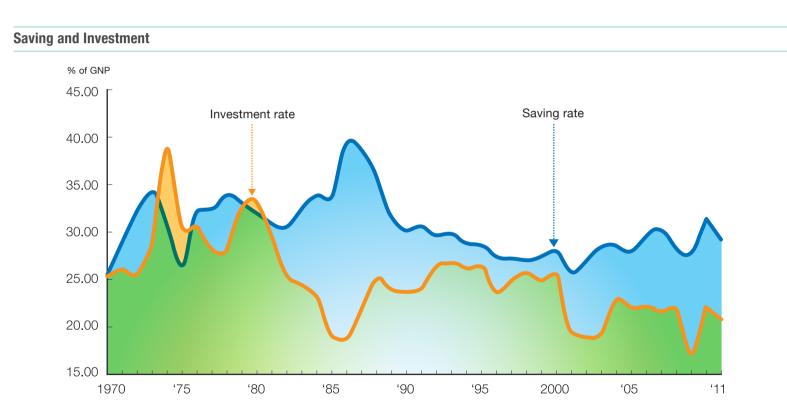
Source: Ministry of Finance.

Saving and Investment

In the 1960s and 1970s, Taiwan's economic development displayed an economic virtuous cycle of "high saving rate – high investment rate – high economic growth." In the 1960s, the government started vigorously encouraging people to save money with a view to accelerating capital formation, while providing tax breaks to encourage investment and raise economic growth potential. Taiwan's saving and investment rates rose from less than 20% in the early 1960s to an average of 30.9% and 29.4%, respectively, in the 1970s.

In the early 1980s, with investment willingness in the private sector sagging after the second energy crisis and public investment sharply reduced, excess saving climbed continuously, peaking at 20.4% of GDP in 1986. To correct the imbalance in the economy, the government actively pursued a policy of economic liberalization. The sharp appreciation of the NT dollar and the steady reduction of import tariffs spurred rapid growth in private consumption, with the saving rate falling from its peak of 39.4% to an average of 28.6% in the 1990s. At the same time, with the government also actively implementing the Six-Year National Development Plan to expand public investment, the investment rate climbed back up from its low of 17.6% to an average of 25.2% in the 1990s. As a result, the excess saving rate fell to around 3.4%.

In the early 2000s, investment willingness was dampened by the effects of the bursting global dot-com bubble, the 911 terrorist attacks, and the spread of the SARS epidemic, with the investment rate at one stage falling below 19% in 2002. But with the government taking vigorous action to improve the investment environment and expand public investment, the investment rate rose back above 20% from 2004 to 2008. In 2009, the impact of the global financial crisis caused Taiwan's investment rate to fall to 17.1%, while the excess saving rate climbed to 10.5%, its second-highest level in 22 years, reflecting the inadequate driving force of investment. In 2011, the investment rate rose back to 20.1% as economic conditions recovered. In the future, the government will actively adjust Taiwan's economic growth structure, seeking to rev up the three engines of investment, consumption, and export to drive economic development. This can be expected to effectively attract investment from around the world and push the investment rate continuously upward.



Source: Directorate-General of Budget, Accounting and Statistics, Executive Yuan, R.O.C. (Taiwan), May 2012.

Infrastructural Development

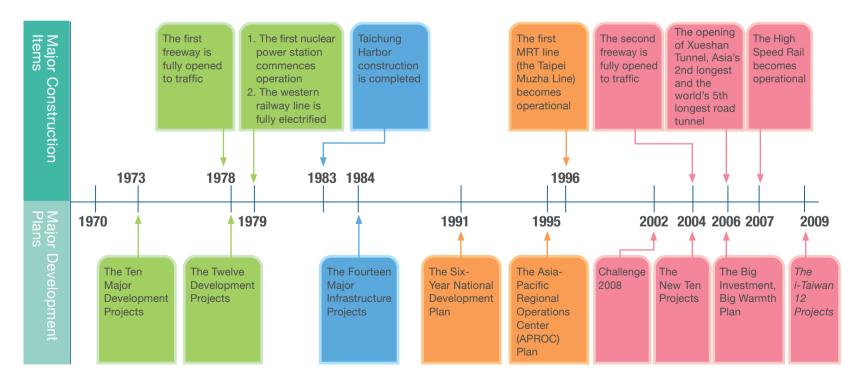
The continuous augmentation of infrastructure has been key to maintaining the growth of Taiwan's economy. In 1973, the government launched the Ten Major Development Projects, a set of national infrastructure projects for freeway, international airport, steel plant, and nuclear power plant construction, railway electrification, and other such works to drive forward the transformational development of Taiwan's economy. This was followed in 1978 by the Twelve Development Projects, which encompassed not only physical infrastructure for such purposes as developing heavy and chemical industries, but also new town development, islandwide culture centers, and other basic social, cultural and welfare infrastructure.

In the 1980s, as Taiwan's national income rose rapidly, the government turned its focus to enhancing national living quality. This formed the main theme of the Fourteen Major Infrastructure Projects launched in 1984, the

components of which included not just purely economic projects such as installing modern telecom infrastructure and building an MRT system in Taipei, but also social infrastructure for such purposes as providing health care and treating urban garbage. In 1991, the Six-Year National Development Plan was inaugurated to substantially expand electric power, aviation, environmental protection, medical care, and other public construction. To alleviate its fiscal burden, in 1994 the government announced the Statute for Encouragement of Private Participation in Transportation Infrastructure Projects, which provided incentives for private participation in public infrastructure projects, and under which the Taiwan High Speed Rail (THSR) was constructed in BOT (build-operate-transfer) mode. In 2004, the government launched the New Ten Projects for investment in cultural, scitech and other such infrastructure with a bearing on public welfare and national competitiveness.

In 2008, as it grappled with the severe impact of the global financial crisis, Taiwan confronted a key moment of structural transition. To meet the urgent need to bolster infrastructure required for long-term development, and responding to the intensifying effects of global climate change and the increasing pressure to conserve energy and reduce carbon emissions, the government concentrated public construction resources in plans for the prioritized implementation of the i-Taiwan 12 Projects. Launched in 2009, to be carried out over an 8-year timeframe up to 2016, and calling for investment totaling NT\$3.99 trillion, this initiative mapped out 12 sets of projects for developing a fast and convenient islandwide transport network, building an intelligent Taiwan, developing industrial innovation corridors, planting forests, carrying out flood-prevention works, and other purposes collectively aimed at driving a new wave of growth for Taiwan's economy.

Taiwan's Major Infrastructure Development



Inward and Outward Foreign Direct Investment

Foreign direct investment (FDI) has played an important role in the process of Taiwan's economic development. And the transfer of technology and broadening of markets that accompany such investment have made a vital contribution to the industrialization of the Taiwan economy. According to the balance of payments, the development of Taiwan's inward FDI can be roughly divided into three stages: Growing period (1958 to 1988): Taiwan's inward FDI broke US\$100 million in 1978 and climbed to US\$960 million in 1988, averaging US\$130 million annually during this period. Strengthening period (1989 to 2000): After breaking above US\$1 billion in 1989, inward FDI grew strongly under the spurring effect of industrial upgrading and the formation of electronics industry clusters, to reach an all time high of US\$4.93 billion in 2000 at an

Adjustment period (2001 to 2011): Affected by the bursting of the global IT industry bubble, inward FDI plunged from US\$4.11 billion in

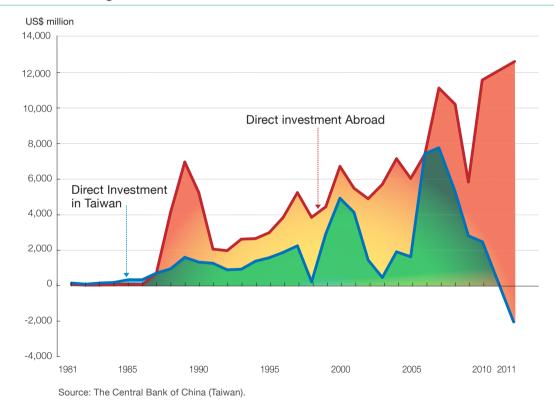
average annual growth rate of 14.5%.

2001 to US\$0.45 billion in 2003. But after 2005, with transnational firms recognizing Taiwan's R&D capabilities and expanding their R&D centers in Taiwan, and with an upsurge of cross-border M&A activity and private equity fund investment in Taiwan, inward FDI grew strongly again, reaching a historic high of US\$7.77 billion in 2007. However, the effects of the global financial tsunami caused it to drop to NT\$5.43 billion in 2008 and to NT\$2.81 billion in 2009. In 2011, the slowdown of the international economy under the impact of the European sovereign debt crisis in the second half of the year caused Taiwan to experience its first swing to a net FDI outflow, of US\$1.96 billion.

Looking ahead, the cross-strait signing of ECFA will not only promote the stable development of cross-strait economic and trade relations, but can also be expected to continue spurring the return of Taiwanese businesses from overseas as well as an inflow of foreign investment. In addition, in order to join in regional economic and trade integration, Taiwan is actively pursuing the negotiation and signing of economic cooperation agreements with trade partners. At the same time, the government is doing its utmost to remove investment barriers, including by such means as improving the investment environment, streamlining administrative procedures, and speeding up regulatory loosening. All of these measures can be expected to give a further boost to investment in Taiwan.

In respect of outward FDI, since the late 1980s, Taiwan's burgeoning economic might and the rapid progression of its liberalization and internationalization have transformed it from a capital recipient into one of Asia's main outward investors, with its outward FDI surpassing its inward FDI to turn it into a net exporter of capital. In 1989, Taiwan's outward FDI peaked at US\$7 billion, with the net capital outflow reaching US\$5.35 billion. From 1981 to 2011, the cumulative outflow of FDI from Taiwan amounted to US\$141.88 billion.

Inward and Outward Foreign Direct Investment



Monetary and Financial Development

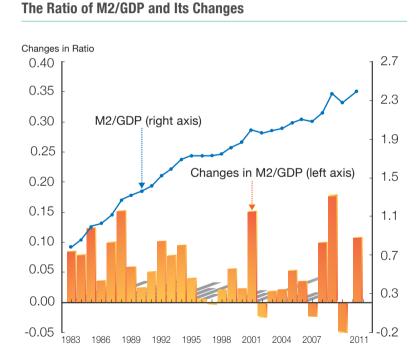
In the course of Taiwan's economic development, the financial system has played a vital role as a bridge between savings and investment. However, as the politico-economic environment has changed, the functions of the financial system have also undergone a major transformation. Before the 1980s, the government attached primary importance to the stability of the financial system, and hence imposed a multitude of financial controls. But after the 1980s, as Taiwan entered a mature phase of economic development, the government shifted its focus to financial efficiency, actively pursuing financial liberalization and internationalization, with successive implementation of the following financial reforms:

Banking sector opening: The Banking Act was amended in 1989 to allow applications for the establishment of new banks. Thereafter, the number of banks in Taiwan grew from 24 in 1990 to a high of 53 in 2000 before diminishing to 38 at the end of 2011. With the opening of the money market to the establishment of new private-sector intermediaries in 1995, the number of bills finance companies jumped from 3 to 16, and stood at 8 in 2011.

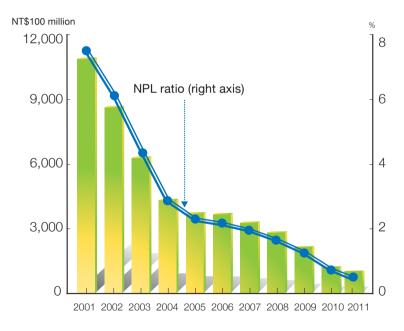
Interest rate liberalization: Prior to 1989, bank interest rates were decided by the government. The implementation of interest rate liberalization in 1989 greatly enhanced the efficiency of fund utilization.

Foreign exchange liberalization: In 1978, the foreign exchange rate system was changed to the floating exchange rate system; and in 1989, the central foreign exchange rate system centered on the U.S. dollar was abolished and the foreign exchange rate was decided by market demand and supply. Taiwan's financial reforms spurred booming

development of the financial industry. Although the Asian financial storm of 1997 delivered a heavy shock to Taiwan's financial system, causing the non-performing loan (NPL) ratio of domestic banks to climb to a peak of 7.48% in 2001, the government's active measures to improve the fundamental constitution of the banking sector helped slash the NPL ratio to just 0.43% in 2011. Looking forward, as the government continues to build Taiwan's financial environment and regulation into international alignment, and strengthen the financial industry's risk management capabilities, it will also take orderly sequenced steps to promote cross-strait financial activity. This will serve the aims of expanding the scope of services provided by Taiwan's financial institutions, and raising the competitiveness of Taiwan's financial services.



Changes in the Amount and Ratio of Domestic Banks' NPLs



Source: The Financial Supervisory Commission, Executive Yuan, ROC (Taiwan).

Note: M2 adopts averages of daily figures. Source: The Central Bank of China, ROC (Taiwan).

Public Finance

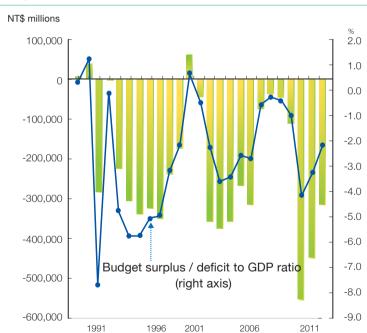
Taiwan's public sector long enjoyed a surplus in its current account large enough to cover capital-account expenditures. However, in 1991, as the government launched a new series of major infrastructure projects and significantly expanded social welfare programs, the fiscal balance turned into a rapidly rising fiscal deficit. In FY 1992 and FY 1993, government spending accounted for 30% of GNP. And with the increase in public expenditures outpacing growth in revenue, the central government's debt-to-GDP ratio climbed from 10.8% in FY 1992 to 16.9% in FY 1997.

In response to this situation, the government in June 1996 introduced a package of fiscal reforms designed to reduce the imbalance between revenues and outlays and to lay the groundwork for a more rational system of taxation and expenditure, which enabled reduction of the central government's debtto-GDP ratio to 13.9% in FY 1999. And with a big jump in the growth of tax receipts, the government recorded a budgetary surplus of NT\$60.9 billion in FY 1998, the first surplus in ten years.

Subsequently, the budget slipped back into deficit, due mainly to sluggish or declining revenue growth and a dramatic increase in social welfare spending, including the cost of recovering from the severe earthquake that struck Taiwan on September 21, 1999. Having reached as high as NT\$374.9 billion in FY 2001, the fiscal deficit began to fall again in FY 2002 as revenues increased and expenditure was brought under control, with the deficitto-GDP ratio decreasing from 3.8% in FY 2001 to 0.4% in FY 2007. However, after the



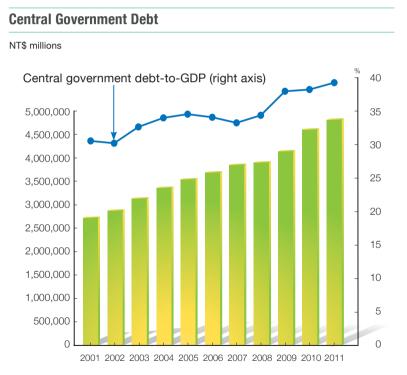
global financial tsunami struck in 2008, public spending increased sharply as the government took active measures to revitalize the economy. In 2009, the fiscal deficit climbed to 4.5% of GDP, but was reduced to 2.2% in 2011 on the back of the economic recovery and higher tax revenues. And the expansion of government spending on public works caused the central government's debt-to-GDP ratio to rise from 38% in 2009 to 39.9% in 2011.



Budget Surplus / Deficit

Notes: 1. Net budget revenue excludes revenue from government bond issuance and borrowing, and surplus from previous fiscal years; net budget expenditure excludes debt principal repayments.

 Before 2000, the fiscal year begins July 1 of preceding year and ends June 30. FY 2000 extends from July 1, 1999 to Dec. 31, 2000. Subsequent fiscal years follow the calendar year (from Jan. 1 to Dec. 31).



Notes: 1. Outstanding debt excludes foreign debt.

2. The figures for FY 2001 to FY 2011 are those of audited final accounts. Source: Ministry of Finance, R.O.C.

Labor Force and Employment

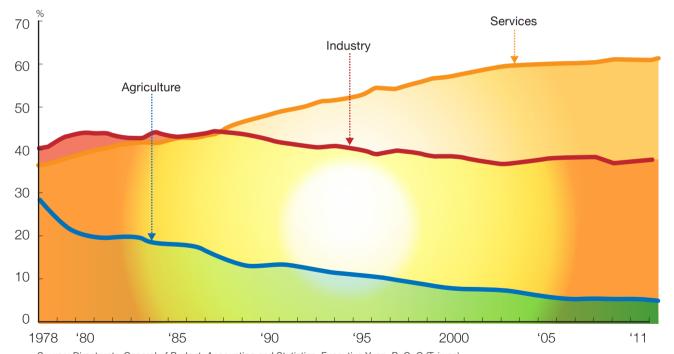
Because of a high birth rate prior to the early 1980s, Taiwan's working-age population expanded steadily, from 70.3% of the total population in 1990 to 84.9% in 2011. But at the same time, largely because of an increasingly prevalent desire by young people to extend their education, the labor force participation rate fell steadily from its peak of 60.9% in 1987 to 57.2% in 2001, though it has trended up again in recent years to 58.2 % in 2011.

From 2001 to 2011, total employment increased 1.2% annually. Unemployment remained between 1.5% and 2.0% of the labor force until 1995. However, from the second half of 1995, the effects of ongoing transformation of the industrial structure caused a rising

phase in the unemployment rate, which rose to 3.0% in 2000. When the bursting of the global dotcom bubble caused stagnation of Taiwan's economic growth in 2001, structural unemployment rose continuously, and the unemployment rate reached 5.17% in 2002. Thereafter, a series of employment promotion measures put into effect by the government helped bring the jobless rate down year by year to 3.91% in 2007. However, in the second half of 2008, the unemployment rate began to shoot up again under the impact of the global financial crisis, peaking at 5.85% in 2009. In the second half of 2011, the effects of the European debt crisis caused a slowdown in domestic economic growth, but the government's active match-making of jobseekers and industries expanded job creation, bringing the unemployment rate back down to 4.39%, and helping achieve a gradual turn for the better in the labor situation.

As Taiwan has developed from an agricultural into an industrial economy, dramatic changes have taken place in its employment structure. Agricultural employment fell from 36.7% of total employment in 1970 to 5.1% in 2011, while employment in industry rose from 28.0% to a peak of 42.8% in 1987, before declining to 36.3% in 2011. Meanwhile, the service sector has increased its share of total employment from 42.0% to 58.6%, and promises to be the major provider of new job opportunities for years to come.

Employment Structure (%)



Source: Directorate-General of Budget, Accounting and Statistics, Executive Yuan, R. O. C.(Taiwan)

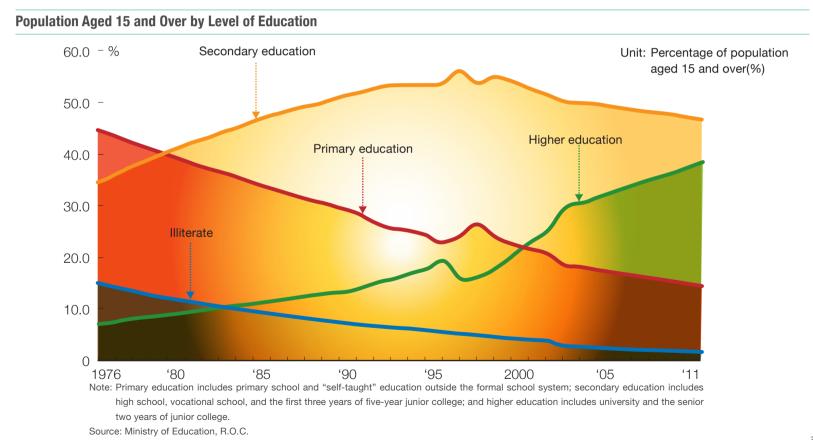
Education

With its lack of natural resources, the continuous upgrading of manpower guality has been key to maintaining Taiwan's economic growth. In the 1950s, compulsory education in Taiwan was limited to just six years of primary schooling. In 1968, Taiwan began to implement a nine-year national education system, complemented by vigorous efforts to augment classes and schools, enhance teacher training, and raise school attendance rates. In 1982, a nine-year compulsory education system was formally established under the Compulsory School Attendance Act, which helped reduce the illiteracy rate from around 10% in 1980 to just 1.83% in 2011. With the coming of the digital age, the promotion of digital learning has also become a key focus of Taiwan's education policy. In 2011, 86.8% of Taiwan's

households possessed a computer, and the Internet connection rate stood at 81.8%.

Education policy in Taiwan has focused not only on providing education to all but also on upgrading the quality of education. After the liberalization of university establishment commenced in 1996, the number of universities increased from 67 to 148 in 2011. Meanwhile, the population aged 15 or older with a college or university degree rose from 19.3% to 38.2%. Those with a higher education now outnumber those with only a primary-level education, reflecting the success of efforts to upgrade Taiwan's human resources.

Thanks to high educational standards and equal educational opportunity, Taiwan has accumulated an impressive stock of human capital and developed a significant capacity for research and development (R&D). To ensure the continuous upgrading of human resources, Taiwan's most precious asset, the government will implement a twelve-year national basic education system, emphasize enhancement of our people's English proficiency, and orient talent cultivation toward the needs of a knowledge economy. At the same time, the government will actively raise the standard of higher education and promote the internationalization of education, to bolster Taiwan's international competitiveness, and with the aim of making Taiwan into a higher education stronghold in East Asia.



Science and Technology

Science and technology (S&T) development in Taiwan may be divided into two stages: a labor-intensive stage from 1952 to 1985. and a technology-intensive stage after 1985. During the earlier period, Taiwan significantly enhanced the international competitiveness of its light industries by introducing production, managerial, and marketing know-how from abroad and by achieving better use of labor and capital. The later stage has been marked by strong government support for applied technological development and by the promotion of technology-intensive industries. Thanks to a concerted effort by the government, research institutions, and the business community, Taiwan's progress in S&T development includes the following major achievements:

Total R&D spending rose from only 1.03% of GDP in 1985 to 2.90% in 2010. Moreover, the private sector overtook the public sector in

R&D spending for the first time in 1993, and, since then, private-sector R&D expenditures have grown much more rapidly than those of



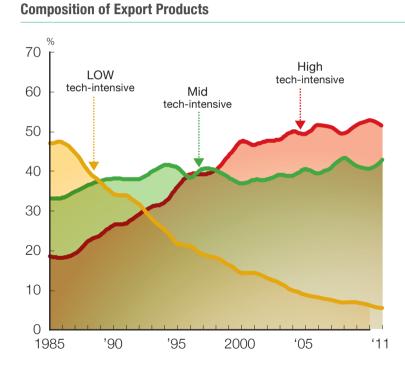
the public sector. In addition, the number of research personnel per 1,000 population rose from 1.3 in 1985 to 7.1 in 2010. Meanwhile, Taiwan's world ranking rose from 36th to 16th in the Science Citation Index and from 26th to 9th in the Engineering Index.

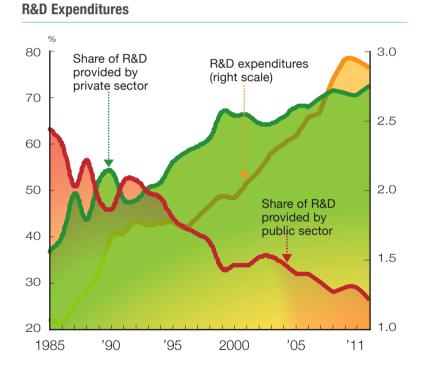
In 2011, Taiwan's three biggest science parks (the Hsinchu, Central Taiwan, and Southern

Taiwan Science Parks) had combined business turnover of nearly NT\$1.96 trillion, with 89.9% of that turnover recorded by firms in the integrated circuit and optoelectronics industries.

From 1985 to 2011, high-tech-intensive products increased their share of total exports from 18.8% to 51.2%.

To maintain Taiwan's industrial development advantages, the government will continue to expand national R&D expenditure, so as to ensure that our S&T innovation capabilities are at the world forefront; will develop forwardlooking research fields, with the aim of establishing world-class research communities; and will optimize the industrial benefits of S&T innovation, to raise the value-added rates of industries. At the same time, the government will also apply advanced technologies to create a pleasant and safe living environment for the people.





Source: National Science Courcil, Executive Yuan, R.OC. Ministry of Finance, R.O.C.

Source: Ministry of Finance, R.O.C.

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Social Security

In recent years, amid rapid changes in the structure of the economy and society, the people of Taiwan have sharply raised their demands for social welfare provision. The government has responded by adopting multiple measures to gradually expand the coverage of social security schemes, continuously raising the scope and quality of social welfare services. In reflection of this,



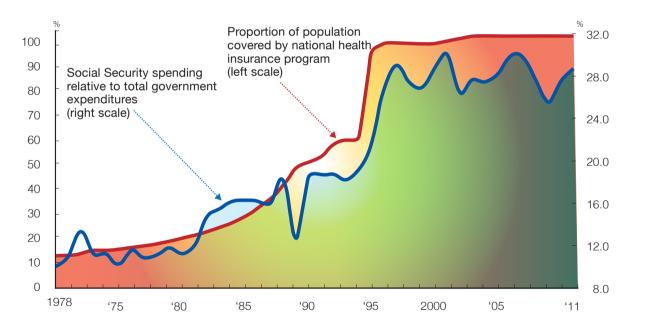
public spending on social security has risen from 10.0% of total government outlays in FY 1970 to 28.7% in FY 2011 (including 17.1% spent on social welfare, 8.2% on pension & survivors' benefits, and 3.4% on community development & environmental protection).

The government has been continuously instituting new measures to strengthen Taiwan's social safety net. In March 1995, it introduced national health insurance, which now covers almost the entire population; and in January 1999, an unemployment insurance scheme was inaugurated. Labor rights received further protection from the enactment of the Employment Insurance Act in May 2002 and the Labor Pension Act in June 2004, and a national pension system was formally



launched in October 2008. In July 2011, a new social relief system was put into effect. As of June-end 2012, increasing the number of disadvantaged people covered by the scheme from 270,000 to 508,000 and raising its coverage to 2.18% of the whole population, up from 1.19% before its implementation, as another big step toward the completion of Taiwan's social safety net.

Social Security



Note: Debt repayments are excluded from government expenditures.

Sources: 1. Ministry of Finance, R.O.C. 2. Bureau of National Health Insurance, R.O.C.

Major Themes of Taiwan's Economic Development Plans 1953~2012

Plan	1st Medium-Term	2nd Medium-Term	3rd Medium-Term	4th Medium-Term	5th Medium-Term
	Plan	Plan	Plan	Plan	Plan
	1953-1956	1957-1960	1961-1964	1965-1968	1969-1972
Goals/ Strategies	 Step up agricultural and industrial production Promote economic stablility Improve the balance- of-payments position 	 Increase agricultural production Accelerate industrial and mining development Expand export trade Create job opportunities Improve the balance-of- payments position 	 Maintain economic stability Speed up economic growth Expand the industrial base Improve the investment environment 	 Foster economic moderization Maintain economic stability Promote the development of high- grade industries 	 Maintain price stability Expand exports Intensify infrastructural development Upgrade the industrial structure Promote agricultural modernization

Plan	6th Medium-Term	7th Medium-Term	8th Medium-Term	9th Medium-Term	10th Medium-Term
	Plan	Plan*	Plan	Plan	Plan
	1973-1975	1976-1981	1982-1985	1986-1989	1990~1993
Goals/ Strategies	 Accelerate industrial moderization Expand infrastructural development Enhance manpower quality Expand exports Stabilize prices 	 Raise energy efficiency Improve the industrial structure Strengthen manpower cultivation Promote balanced economic and social development Carry out the Ten Major Development Projects 	 Maintain reasonable price stability Continue economic growth Harmonize industrial development Provide adequate job opportunities Promote more- equitable income distribution Balance regional development Harmonize social life 	 Promote trade liberalization Expand public investment Improve the tax and financial systems Speed up the modernization of services Actively develop key technologies Stengthen the control of environment pollution 	 Basic Policy Expand public expenditure Improve laws and regulation, and pursue economic liberatlization Development emphases: Improve the investment environment Develop transportation infrastructure Strengthen environmental protection Augment social welfare

X Plan revised for last 3 years (1979~1981).

Major Themes of Taiwan's Economic Development Plans 1953-2012 (continued)

Plan	Six-Year National Development Plan 1991~1996	Plan for National Development into the Next Century 1997~2000	Plan for National Development in the New Century 2001~2004	Second-Term Plan for National Development in the New Century 2005~2008	Third-Term Plan for National Development in the New Century 2009~2012
Goals/ Strategies	 General goals: Rebuild social and economic order Pursue balanced all- round development Policy goals: Raise national income Boster industrial potential Promote balanced regional development Improve the quality of life 	 General goals: Enhance national modernization Sharpen national competitiveness Improve the national quality of life Promote sustainable development 	 General goals: Develop Taiwan as a "green silicon island" Develop a knowledge- based economy Provide a sustainable environment Provide a sustainable environment Foster a fair and just society 	 General goals: Develop Taiwan as a "green silicon island" with a rich humanistic culture Reduce the production gap Reduce the sustainability gap Reduce the national welfare gap 	 General goals: Speed up reconstruction and deregulation, to augment the economy's added value Create mutual trust and caring, to augment the value of social capital Promote energy saving and carbon reduction, to augment the sustainable value of the environment

Future Development Directions

In just over six decades, Taiwan has been transformed from an agricultural society into a major player in the global economy and a key innovator in information technology. To keep up with the globalizing world of the 21st century, we will build up public infrastructure, promote industrial innovation, upgrade our economic structure, and enhance our global linkage as the four main strategies for developing Taiwan into a global innovation center, an Asia-Pacific economic and trade hub, and an operations headquarters for Taiwanese enterprises operating overseas and multinational enterprises. Through these endeavors, we will seek to create unique and innovative status and value for Taiwan in the global and Asian economic and trade realms. On the infrastructure side, from 2009 through 2016 we will carry out the i-Taiwan



12 Projects, which include building a fast and convenient islandwide transportation network, redeveloping Kaohsiung port and city, promoting the development of new high-tech industrial clusters in the central region, creating the Taoyuan international aerotropolis, building an intelligent Taiwan, developing industrial innovation corridors, regenerating urban and industrial districts, revitalizing farm villages, restoring coastlands, carrying out afforestation, undertaking flood prevention and water management works, and expanding the sewer system throughout Taiwan, with the goals of providing an

Future Development Directions (continued)

excellent investment and living environment. For industrial innovation, as well as continuing to develop the ICT industry, the government will actively promote the development of six major rising industries (biotechnology, travel & tourism, green energy, medical care, high-end agriculture, and cultural & creative enterprise), four emerging intelligent industries (cloud computing, smart electric vehicles, green buildings, and patent commercialization), and ten key service industries (internationalization of Taiwanese cuisine, international medicine, international logistics, music & digital content, the MICE industry, urban renewal, Chineselanguage e-commerce, WiMAX, a capitalraising platform for high-tech and innovative enterprises, and expanded recruitment of foreign students), as means of driving a new

leap upward for Taiwan's industry.

For upgrading our economic structure, the government will strive to rev up investment, consumption and export as three engines to propel economic growth. At the same time, the government will actively steer structural transformation through the focal strategy of promoting manufacturing industry servicization, service industry technologization and internationalization, and traditional industry featurization (the "four izations in three sectors of industry"), to reorient the industrial structure toward more diversified, higher-value, lower carbonemitting development.

For enhancing our global linkage, we will loosen regulation across the board, to create a freer and more efficient business environment.

We will continue to carry out liberalization, and actively plan the establishment of Free Economic Demonstration Zones, to attract transnational companies to invest in Taiwan, with the aim of making Taiwan into the best gateway to and from Asia-Pacific markets for the world's business enterprises. And we will continue the conduct the follow-up negotiations of the cross-strait Economic Cooperation Framework Agreement (ECFA), actively pursue the negotiation and signing of economic cooperation agreements (ECA) with our main trade partners, and press for admission to the Trans-Pacific Partnership (TPP), so that Taiwan is able to build close and beneficial linkages worldwide and grasp business opportunities in all the world's markets.

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