McNamara Papers

Travel b
May

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Folder 2

TAIWAN

Itinerary

for

Mr. McNamara and His Party

MAY 16-19, 1970

May 17 (Sunday)

0730	Lv. Grand Hotel by airconditioned bus
0800	Ar. Taoyuan Land Reform Exhibition Hall Briefing and Discussion on Land Reform Program
0930	Lv. Taoyuan for Taichung by plane
1000	Ar. Taichung
1015	Visit Family Planning Institute
1245	Lv. Family Planning Institute
1315	Lunch by Governor T. C. Chen (Chunghsin Village)
1430	Lv. Chunghsin Village for Taichung
1509	Lv. Taichung for Taipei by airconditioned train
1808	Ar. Taipei Evening free

May 18 (Monday)

0900	Mr. S. L. Chien, President, National Taiwan University (At Hotel)
0930	Dr. Lin Yutang, Author and Philosopher (At Hotel)
1030	Mr. T. S. Lin, Chairman, Tatung Engineering Corp. (At Hotel)
1100	Mr. Y. Z. Hsu, President, Asia Cement Corporation (At Hotel)
1130	Mr. K. A. Chang, President, Sang Yang Industrial Corp. (At Hotel)
1400	Visit Palace Museum
1530	Reserved
1830	Call on Premier and Deputy Premier
1930	Dinner by Premier and Deputy Premier

May 19 (Tuesday)

800 A. Rozitchi

0900 Dr. T. C. Liu, Chairman of Commission on Taxation Reform (At Hotel)

0930 Mr. Felix Chang, President, China Development Corp. (At Hotel)

950

~~1000~~ Mr. C. C. Wu, President, The Changhwa Commercial Bank (At Hotel)

10.15 10.30 MinDef Bring loan documents

~~1100~~ Roundup discussions — Lunch ?

11.30 ~~Lunch Free~~

12.30 Back to hotel

1.15

1500 Depart Taipei, NW-4

May 16 (Saturday)

1300 Ar. Taipei, KAL 501

1315 Ar. Grand Hotel

1500 Meet Minister K. T. Li at Council for International Economic Cooperation and Development
Briefing on Economic Situation
(Bank of Taiwan)

1700 Signing of Loan and Guarantee Agreements for Second Power Project and Fourth C D C Project

1900 Dinner by Minister K. T. Li, Governor K. H. Yu and Minister Y. S. Sun
(Central Trust of China)

	Local	GMT		
May 16 Sat	0810		Depart Hotel for airport	
	0900	0000	Depart Seoul (via Osaka)	Korean Air 501
	1300	0500	Arrive Taipei--Grand Hotel	
	1500		Meeting with K.T. Li (Minister of Finance), Y.S. Sun (Economic Affairs and Gov. K.H. Yu (Central Bank) briefing on economic situation	Bank of Taiwan
	1700		Loan signing (CDC and power projects)	"
	1720		Return to Hotel	
	1930		Dinner by Ministers Li and Sun and Gov. K.H. Yu	Central Trust of China Building
May 17 Sun	0730		Depart Hotel by airconditioned bus (enroute briefing by Y.S. Tsiang)	
	0800		Arrive Taoyuan Land Reform Exhibition Hall; briefing on land reform program	
	0930		Leave Taoyuan for Taichung by plane	
	1000		Arrive Taichung	
	~~1030~~ 1015		Visit Family Planning Institute	
	1245 lv Insti ~~1330~~ 1315 - lunch [illegible] 1430 - hotel "		Lunch by Governor T.C. Chen	
	1509		Leave Taichung for Taipei by airconditioned train (further discussion on family planning and land reform with Minister Li, Y.S. Tsiang and Mr. Keeny)	
	1808		Arrive Taipei	
			Evening free	
May 18 Mon	0900		S.L. Chien, Pres. Nat'l Taiwan University	At Hotel
	0930		Lin Yutang, author	"
	1030		T.S. Lin, Chm. Tatung Engineering Corp.	"
	1100		Y.F. Hsu, Pres. Asia Cement Corp.	"
	1130		K.A. Chang, Pres. Sang Yang Industrial Corp.	"
			Lunch free	
	1400		Visit Palace Museum	
	1530		Meetings with the President, Vice President and Deputy Premier	
	1930		Dinner by Premier and Deputy Premier	
May 19 Tue	0900		Chairman of Commission on Taxation Reform, Dr. T.C. Liu (outstanding economist)	"
	0930		Felix Chang, Pres. China Development Corp.	
	1000		C.C. Wu, Pres. Changhua Commercial Bank	"
	1100		Round-up discussion with K.T. Li, Y.S. Sun, K.H. Yu, W.H. Fei and others	
			Lunch free	
	1500	0700	Depart Taipei	Northwest 4
	1850	0950	Arrive Tokyo	
	2230	1330	Depart Tokyo (via Anchorage and Copenhagen)	JAL 403
May 20 Wed	0855	0755	Arrive Paris--Bristol Hotel	

LEC
May 6, 1970

REPUBLIC OF CHINA

List of Cabinet Ministers

Premier:	C.K. Yen
Vice Premier:	Chiang Ching-kuo
Secretary-General:	Tsiang Yien-si
Minister of the Interior:	Hsu Ching-chung
Minister of Foreign Affairs:	Wei Tao-ming
Minister of National Defense:	Huang Chieh
Minister of Finance:	K. T. Li
Minister of Education:	Choong Kow-kwong
Minister of Justice:	Cha Liang-chien
Minister of Economic Affairs:	Sun Yun-suan
Minister of Communications:	C. C. Chang
Ministers Without Portfolio:	George K. C. Yeh
	Chen Hsueh-ping
	Tien Chung-chin
	Ho Chung-lan
	Tung Wen-chi
	Lien Chen-tung
	P. Y. Hsu

K. T. (KUO-TING) LI 61

Minister of Finance

K.T. Li, who had served since January 1965 as Minister of Economic Affairs, was appointed Minister of Finance on June 25, 1969. Educated as a physicist, Minister Li has played a vital role in the economic development of Taiwan. Minister Li is generally interested in all aspects of economic development and has unorthodox ideas about the solution of development problems. He is open-minded, pragmatic, very intelligent and talkative. He has travelled extensively in East Asia and Europe, frequently to attend economic conferences as the representative of his Government, and has visited the United States at least five times in the past ten years.

Mr. Li was born on January 28, 1910 in Nanking. He graduated from National Central University in 1930 and for the next three years taught at Ginling Women's College. After receiving a Boxer Indemnity Fellowship, Li studied physics at Cambridge University in England from 1934 to 1937 and was awarded an M.A. degree. He returned to China subsequently to become a professor at National Wuhan University. When the war with Japan broke out, he began work at an air academy near his university. There he instructed photographic reconnaissance personnel and managed an aviation-instrument repair shop. In 1942 he was appointed superintendent of the Tzuyu Iron and Steel Works, a plant under the National Resources Commission in Szechwan province. Li held that post until 1945 and then, for a short time, was a standing member of the Iron and Steel Industrial Committee of the National Resources Commission. From 1946 to 1948 he was Deputy Director of the Planning Board, Central Shipbuilding Corporation, Shanghai. He was appointed Deputy Director of CUSA's (Council for United States Aid) Technical Department during 1948. In the same year he was sent to Taiwan to become Assistant Manager of the Taiwan Shipbuilding Corporation. He was promoted to General Manager of that Corporation in 1951, remaining in that capacity until 1953, when he became a member of the Industrial Development Commission of the Economic Stabilization Board.

From 1958 to 1963, he was Secretary General of CUSA and retained this position in the successor organization, the Council for International Economic Cooperation and Development (CIECD). He became CIECD's Vice Chairman in December 1963 and retained that position concurrently after his appointment as Minister of Economic Affairs.

K. H. (KUO-HWA) YU 56

Governor, Central Bank of China

Mr. Yu has had close relations with the Bank and the IMF from the very early days. He was Alternate Executive Director of the Bank 1947-51 and of the IMF 1951-55. You met him when he called on you briefly during the Annual Meeting 1968 as the Chinese Governor of the Bank.

Mr. Yu, who was born January 10, 1914 in Chekiang, was educated at Tsinghua University and did graduate work in economics at Harvard and the London School of Economics during 1944-47. He had served as Secretary to the President of the Republic 1943-44. After his return from Washington he was Managing Director of the Central Trust of China, the Government's procurement agency, from 1955-61. During 1961-67 he was Chairman of the Bank of China and then Minister of Finance from 1967-69. Last June, he became Governor of the Central Bank, a position which is regarded as slightly higher than that of a Minister in the Chinese hierarchy.

Mr. Yu is an articulate economist with considerable experience in monetary policy. In his views and attitude he represents the conservative cautious Chinese banker. He is not an outgoing personality and usually appears rather formal and cold; it may therefore be somewhat difficult to enter into an informal discussion. Relations between Governor Yu and K.T. Li are very good, even though their personalities and sometimes their views are different.

Y. S. (YUN-SUAN) SUN 67

Minister of Economic Affairs

Mr. Sun was born on November 11, ~~1913 in Shantung.~~ He received a Bachelor of Science degree in electrical engineering at Harbin Polytechnic Institute in 1934. In 1937 he became an engineer with the National Resources Commission and in 1940 was in charge of running a major power plant on the Mainland. He went to the United States 1943-45 to receive further engineering training by TVA. On his return to Taiwan, he became a Senior Engineer and subsequently in 1950 Chief Engineer of the Taiwan Power Company. In 1953 he was promoted to Vice President and Chief Engineer of the Taiwan Power Company until in 1962 he became President of that Company. On the recommendation of the Bank, he was sent to Nigeria between 1965-67 to serve as Chief Executive Officer and General Manager of the Electricity Corporation. On his return to Taiwan, he became Minister of Communications. Following the death of Mr. S.Y. Dao, he became Minister of Economic Affairs in 1969.

Mr. Sun was an efficient, successful and respected President of the Taiwan Power Company, who displayed considerable administrative and financial skills in reorganizing the Company's organization and structure. His move into the Cabinet in 1967 was not unexpected, but his recent shift to the position of Minister of Economic Affairs came somewhat as a surprise. While an able and circumspect administrator, Mr. Sun has no training and little experience in economics. Mr. Sun is a close friend of the Deputy Premier and currently a great favorite with the President. He is ambitious and a hard worker and undoubtedly he will move further yet in his Government career. He speaks Russian and English fluently.

WALTER H. FEI

Vice Chairman and Secretary General,
Council for International Cooperation and Development

Mr. Fei, who is now 58 years old, received a Bachelor of Science degree from the Chiaotung University in Shanghai and also a Masters degree in Civil Engineering from Cornell University. He did also graduate work at Harvard University. Mr. Fei started his Government career as Director and Chief Engineer of the Taiwan Public Works Administration in 1945. He was in that position until 1947 when he became Deputy Director of the Taiwan Railway Administration. Between 1953 and 1958 he was a member of the Industrial Development Commission and subsequently between 1958 and 1960 became a Director responsible for transporation and public works of the Council for United States Aid. In 1960, Mr. Fei was appointed Vice Minister of the Ministry of Communications and concurrently Chairman of the Government's Committee on Tourism. He held these positions until 1969 when he moved into his present post.

Mr. Fei is an able administrator, unorthodox and very pleasant to deal with. In his present position he is the main contact in the Government for all questions pertaining to Bank-financed projects. CIECD under his day to day management is responsible for the planning as well as the supervision of the execution of all Government investment projects.

CHANG, FELIX SIN-YAH

President, China Development Corporation

Mr. Chang, who was born in Shanghai in 1920, was educated at the National Shanghai Institute of Commerce, where he received a Bachelors degree. He went to the United States during the war and received a Masters degree from the Harvard Business School. He worked for the Bank of China in various position from 1940-49 and then transferred to the Bank of Taiwan, where he became the Manager of the Foreign Division between 1951-59. When the China Development Corporation was founded in 1959, Mr. Chang was appointed Vice President in charge of operations. Following the death of CDC's first President, Mr. Ho, in early 1963, Mr. Chang became President of CDC.

Mr. Chang has been actively involved in shaping CDC's policies from the very beginning. Under his leadership, CDC has become one of the most successful and respected development banks which has served as an example to other development banks in many respects. Mr. Chang has actively propagated western management concepts, last but not least by being the author of a book on "The Board of Directors and Business Management". Mr. Chang has participated in the negotiations of an IDA credit and three Bank loans and he has attended every Annual Meeting since he became President of CDC. Over the years, he has developed a close relationship with the Bank staff.

Mr. Chang, in his capacity as President of CDC, has a great deal of insight into the process of industrialization in Taiwan. He should be able to comment intelligently on the factors that contribute to the success of private industrial development as well as on the future prospects for further growth and diversification of private industry.

contact at with tea; 4;

Mr. Chang is an expert gemmologist who has taken various degrees from American universities and gemmological institutions.

L. K. CHEN

President, Taiwan Power Company

Mr. Chen was born in Kwangtung on August 1, 1914. He received his technical education at the Nihon University in Tokyo and subsequently became Professor for Electrical Engineering at the National Sunyat-sen University from 1936-40. He became an engineer and the Chief of the Power Division in the Ordinance Department between 1940-46. In 1946 he left the Mainland and joined the Taiwan Power Company where he served in various positions as Engineer, Chief Engineer and Vice President, until in 1964 he was appointed President.

Mr. Chen is a respected and sound engineer. He has successfully tackled the difficult task of raising substantial financial funds required to meet the Company's large and fast growing investment requirements. Mr. Chen lacks somewhat the articulate administrative efficiency of his predecessor, Mr. Y.S. Sun.

C. C. (CHI-CHENG) CHANG 5V

Minister of Communications

Mr. Chang was born in Shanghai on December 7, 1918. He was educated in the United States where he received a Bachelors degree in Civil Engineering and a PhD degree from Cornell University. He became a professor at the National Szechwan University in 1944 and remained in that position until 1946. In 1953 he became a professor of the National Taiwan University and simultaneously served as senior expert of the Government's Industrial Development Commission. In 1958 he moved into the Government service and held several positions in the Council for United States Aid until in 1963 he became Secretary General of the Council for Economic Cooperation and Development. He was appointed Vice Minister of Economic Affairs in 1965 and became Minister of Communications in 1969 when his predecessor became Minister of Economic Affairs.

Mr. Chang is fairly close to the President. His father has been one of the President's closest advisers for over forty years. Chiang Kai-shek and C.C. Chang's father were schoolmates and the latter is presently Secretary General to the President.

Mr. Chang has been familiar with the Bank and the Bank's operations in Taiwan through his work in CIECD. Mr. Chang is a personable, unassuming soft spoken but extremely brilliant and efficient man. As Minister of Communications he is responsible for the Directorate General of Telecommunications and the investment program of the Taiwan Railway Administration, which is an agency of the Taiwan Provincial Government, both of which have received Bank financing in the past. The Ministry of Communications is also responsible for the development of ports, highways, airports and tourism, other prospective areas for Bank assistance.

GEORGE K. C. YEH

Minister without Portfolio

Mr. Yeh is about 65 and was educated at Amherst College (Massachusetts) and at Cambridge University where he received an M.A. degree in English in 1926. He was a professor of English literature at the National Tsinghua University from 1929-35 and the head of the Department of Western Languages and Literature at Peking University from 1935-39. He entered the foreign service shortly thereafter and served in Malaya. He was the Minister of Information in 1940-41. He was Minister of Foreign Affairs from 1947-49 and has held a number of diplomatic positions abroad since then and was the Ambassador to the U.S. from 1958-62. His English is excellent and his knowledge of literature and art, both Western and Chinese, is impressive. He is very close to the Deputy Prime Minister.

T. H. SHEN

Chairman, Joint Commission for Rural Reconstruction (JCRR)

Mr. Shen is nearly 75 years old. He was educated at the National Agricultural College (Peking), received a Master's degree from the Georgia State University and a PhD. from Cornell University. He was Professor of Plant Breeding at the Nanking University Agricultural College 1926-37. He joined the National Agriculture Research Bureau in 1934 and served there until 1950. He was appointed as Commissioner of JCRR in 1948 and became its Chairman in 1964. His English is not good.

H. T. CHOW

Director General, Budgets, Accounts and Statistics

Mr. Chow is about 55 years old and was educated at the National Wuhan University. He comes from the same district as President Chiang Kai-shek with whom he is friendly. He has held various civil service appointments since the early forties when he served as a secretary in Chiang Kai-shek's military headquarters. He was Vice Minister of Finance 1958-62. His English is poor although he is well travelled. He is regarded as reasonably competent but not outstanding.

Y. S. TSIANG 55

Secretary General, Executive Yuan

Mr. Tsiang is regarded as one of China's most distringuished civil servants. He is 55 years old and was educated as an agriculturist at Minnesota University where he was awarded a Ph.D. degree in 1942. For the next three years he worked as an assistant professor at Minnesota and in 1946 served as an adviser to the Chinese delegation to FAO. He lectured at Nanking University during 1947 and joined the National Agricultural Research Bureau the following year. He served as the Chief of the Department of Miscellaneous and Special Crops at the Bureau for the next four years. He was appointed Secretary General of the Joint Commission on Rural Reconstruction (JCRR) in 1952 and occupied this post till 1961. He is considered as having been very efficient during his tenure with JCRR. From 1961-63 he was the President of the Agricultural Association of China. He is at present Secretary-General of the Executive Yuan and is the right hand man of Prime Minister C.K. Yen. He is thought of as a highly cultivated individual with the capacity to work very hard. He speaks English fluently.

T. C. (TA-CHING) CHEN

Governor, Taiwan Province

Mr. Chen became Governor of Taiwan in 1969. He was born on October 8, 1905 in Kiangsi Province and had a military education and successful military career. He graduated from Whampoa Military Academy and quickly moved up to become Deputy Commander-in-Chief, and then Commander-in-Chief of the Army Group during the Second World War. Following the war he was Deputy Commander and Commander of various garrisons, including Shanghai 1948-49. In Taiwan, he was Deputy Director of the National Security Bureau 1954-59 and subsequently Director 1959-64. He was Commander-in-Chief of the Taiwan garrison between 1962-67 and then Commander-in-Chief of the Chinese Army 1967-69. He published a book on "How to Behave Well and How to Work Well".

F. T. (FU TSUNG) CHIANG

Director, National Palace Museum

Mr. Chiang is 72 years old and was educated at the National Peking University and the Institute of Library Science at Berlin. He was the guest librarian at the Prussian State Library from 1930-32 and has worked at various libraries since then. He was made director of the National Palace Museum in 1966. He is reputed to be well versed in Chinese art and literature. His English is poor.

J. S. (JEROME SINNAN) HU 56

President, China Petroleum Corporation
Chairman, China Gulf Oil Corporation
Chairman, Mobil China Allied Chemicals Ind. Limited

Mr. Hu, who was born on March 16, 1914 in Kiangsu, graduated from Tatung University with a Bachelor of Science degree in 1935 and with a Masters degree from the University of Michigan in 1937. He held several positions as an engineer in the service of the Chinese Government and was a Professor at his Alma Mater, Tatung University, and at Chiaotung University. Before becoming President of the China Petroleum Corporation, he was Deputy Manager and General Manager of the Kaohsiung refinery of CPC.

The China Petroleum Corporation is a wholly Government-owned monopolistic company which operates a big refinery in the south of the island near Kaohsiung. The company also does exploratory work and operates a few minor gas fields. Close to the refinery in Kaohsiung is a naphta cracking plant which has become the basis for a growing petro-chemical industry. Domestic demand for fuel now exceeds the capacity of the refinery at Kaohsiung. To ease the distribution of fuel over the island, the company is planning to build a port facility in the northern part of the island for the importation of fuel; a second refinery will be constructed close to the port facility in about 1973 when demand has grown sufficiently to justify the investment. The Government has requested the Bank to finance the foreign exchange cost of the port facility estimated at about $10 million. A recent pre-appraisal mission found that the proposed site at Shen-ao is unsuitable and the Government and CPC are at present studying alternative solutions, including the construction of an off-shore buoy.

CPC, in a joint venture with the Gulf Oil Corporation, operates a lubricating plant which is at present being expanded with the assistance of a loan from CDC.

Y. Z. HSU 58

President, Asia Cement Corporation
Chairman, Oriental Chemical Fiber Corporation
Chairman, Far East Textiles Limited

Mr. Hsu, who was born in 1912 in Kiangsu, has had virtually no formal education, although with his success in business he has acquired an extensive knowledge of economic and business conditions in China and in export markets abroad. Mr. Hsu came to Taiwan and started a small textile factory which eventually enabled him to acquire substantial interests in other industries. He is an aggressive and dynamic businessman and has a definite talent for making money.

Mr. Hsu is at present negotiating with IFC an equity investment and a loan for the Asia Cement Corporation and the Oriental Chemical Fiber Corporation. The size of IFC investment will be approximately $4 million in the Asia Cement Corporation and $3 million in the Oriental Chemical Fiber Corporation.

The Asia Cement Corporation and Far East Textiles Limited have received several loans from the China Development Corporation.

T. S. LIN 53

Chairman, Tatung Engineering Corporation
Chairman, Chung Hwa Electrical Development Corporation
President, Tatung Institute of Technology
Speaker, Taipei City Council

Mr. Lin is one of the outstanding Taiwanese industrialists. He was born in 1917 and educated at the Taihoku Imperial University in Japan.

His firm, the Tatung Engineering Corporation, is the leading manufacturer of electrical appliances and electrical equipment in Taiwan and successfully competing with Japanese imports. The company has acquired an excellent reputation as a provider of vocational training to employees. The company's vocational school and the company-sponsored Tatung Institute of Technology are leading educational facilities in their respective fields in Taiwan. Mr. Lin is on the Board of the China Development Corporation, Tatung being one of CDC's shareholders and at the same time benefitting from several loans.

Mr. Lin is politically active. As Speaker of the City Assembly of Taipei, he is close to the Government and the political establishment.

CHIANG KAI-SHEK

President

Generalissimo Chiang Kai-shek, who was born in Fenghua, Chekiang, on October 31, 1887, has been in leading positions in the Nationalist Chinese Government ever since 1926 when he became Commander-in-Chief of the revolutionary army. He was educated at Paoting Military Academy and the Tokyo Military Academy and became an early follower of Dr. Sun Yat-sen. Following the 1911 revolution, in which he participated, he spent several years in Russia where he continued his military training.

With the exception of brief tenures in a variety of positions at the Cabinet level, Chiang Kai-shek has always stayed close to the military and his career in the Government is based primarily on military success. Following his appointment as Commander-in-Chief, he led the revolutionary army on an expedition into the northern part of China, where he defeated the power of the warlords and unified the country under the Nationalist Government in 1928. In 1938 he stepped more prominently into the political arena when he was elected Tsung Tsai or Director-General of the Kuomintang. Under his leadership the Chinese with the support of the Allies defeated the Japanese in China during World War II and recovered Taiwan and the Pescadores Islands which had been occupied by the Japanese since 1895. Following the end of World War II the rift between the Nationalist Forces under Chiang Kai-shek and the Communist Forces under Mao Tse-tung widened rapidly and eventually led to the military defeat of the Nationalist Forces and their retreat from the Mainland to Taiwan in 1949. Chiang Kai-shek stated that he would never leave the island other than to recover the Mainland. Chiang Kai-shek was elected President of the Republic of China by China's first Constitutional National Assembly in April 1948. He retired temporarily in 1949 but was successively re-elected to three six-year terms in 1954, 1960 and 1966.

Over the years the President has become a symbolic figure representing not only his country and Government but beyond that the traditional values of China's history and culture. His authority is unquestioned. His direct participation in running the Government is however limited. The day to day decisions of the Government, particularly in domestic and economic matters, are largely left to the Vice President, the Deputy Premier and the Cabinet. Important matters of foreign and military policy, in particular the international strategy versus the Mainland, are handled by the National Security Council which is appointed and chaired by the President and which has wartime veto powers over the Cabinet.

At his advanced age the President is likely to look back rather than forward. He might be more inclined to reminisce about past military campaigns than to discuss economic problems in specific terms. In any event, economic and financial matters may never have been as close to his heart as military strategy and foreign policy.

MADAME CHIANG KAI-SHEK 69

Madame Chiang Kai-shek comes from an influential, sophisticated Shanghai banker's family which was closely related to Sun Yat-sen and participated actively in his revolution. Sung Mei-ling was born in 1901 and married Chiang Kai-shek in 1927. She is the youngest of the famous three Sung sisters. The middle sister, Sung Tsching-ling, born in 1890, was married to Sun Yat-sen; following his death she joined the left-wing faction of the Kuomintang and eventually the communists; she had to go into exile in 1928 and lives now, respected and honored, on the Mainland. The oldest sister, Sung Ai-ling, was the wife of H.H. Kung, an influential member of the Kuomintang.

Madame Chiang Kai-shek was educated in the United States. She graduated from Wellesley College and since her college days has maintained close personal contact with the U.S. and the U.S. Government. Highly intelligent and with a quick grasp of political, economic and financial problems, she has assisted her husband on numerous diplomatic missions and in complicated diplomatic negotiations. Any discussion with the President on economic and financial matters would be most likely conducted through Madame Chiang Kai-shek, if only because of her flawless English.

C. K. (CHIA-KAN) YEN 5

Vice President
President, Executive Yuan (Prime Minister)

Mr. Yen was born in 1905 in Kiangsu and received a Bachelor of Science degree from St. John's University in Shanghai in 1926. He started his Government career in the Fukien Provincial Government. Following the recovery of Taiwan from the Japanese in 1945, he served in the Taiwan Provincial Government as Commissioner of Communications and later as Finance Commissioner and concurrently as Chairman of the Bank of Taiwan. In 1950 he became Minister of Economic Affairs of the National Government, in 1954 Governor of the Province of Taiwan, and in 1957 Minister without Portfolio and concurrently Chairman of the Council for United States Aid. As Minister of Finance between 1958-63, he actively sought Bank assistance for China and developed close relations with the Bank. In 1963 he became President of the Executive Yuan and concurrently Chairman of the Council for International Economic Cooperation and Development, the successor agency to the Council for United States Aid, and the country's economic planning agency.

His election as Vice President in 1966 came as a surprise as he does not belong to the "old guard" of the Kuomintang. As Vice President, he retained his premiership and also remained Chairman of CIECD until last year when this position was taken over by Chiang Ching-Kuo, the President's son. Mr. Yen is a loyal follower of the President without noticeable personal ambitions and without support of any particular political factions. It is widely considered that his role as Vice President is essentially to hold the presidency in case of the President's sudden death, until the President's son is ready to succeed.

The Vice President is a pragmatic economist familiar with western ideas. He has actively helped to shape the early policy decisions in Taiwan's economic development. He was especially involved in the design and implementation of the successful land reform measures. A discussion of Taiwan's economic history since World War II should be most interesting and revealing.

C.K. (CHING-KUO) CHIANG 6D

Vice President, Executive Yuan (Deputy Premier)
Chairman, Council for International Economic Cooperation
and Development

Mr. Chiang, the President's older son, was born in Chekiang on March 18, 1910. He was educated in the Soviet Union where he attended the Sun Yat-sen University in Moscow and also the USSR Military and Political Institute. In 1939 he became Administrative Commissioner for South Kiangsi Province and in 1945 Foreign Affairs Commissioner of the Military and Political Administration for Northeast China. In 1948-49 he was Deputy Economic Control Supervisor for Shanghai. Following the Government's move to Taiwan, he held several positions in the Ministry of National Defense. He was Director General of the Political Department 1950-54, Deputy Secretary General, National Defense Council 1954-67, Chairman of the Vocational Assistance Commission for Retired Servicemen 1957-64, Deputy Minister 1964-65, and Minister 1965-69. In 1969 he was appointed to his present position, succeeding Vice President C.K. Yen, as Chairman of the CIECD. This move was widely considered as a step to prepare Mr. Chiang further for the presidency by exposing him to the management of the country's economic affairs.

Mr. Chiang presumably suffers the fate of many children of famous parents; it is extremely difficult for him to match the personality and fame of his father. Chinese, when questioned, say that he has his own will and ideas and that he participates in the decision-making process at the presidential level.

T. C. LIU

Chairman, Taxation Reform Commission

Mr. Liu was born in 1914 and educated at the National Chiao Tung University. He taught at Cornell University from 1946-48 where he was later the Goldwyn Smith professor of Economics and Director of the program on Competitive Economic Development. He worked as an economist in the International Monetary Fund from 1949-58. He returned to Cornell University in 1958 where he remained lecturing and researching till 1964.

Mr. Liu's specialty is econometrics and he has had numerous articles published in respected economic journals. He is well regarded by academics in the United States. He is an expert on the economy of Mainland China and has made estimates of its national income which are thought of as fairly accurate.

Mr. Liu has close relations with Vice President C.K. Yen and is a member of the Economic and Financial Committee of the Executive Yuan. His most recent appointment has been to head the Taxation Reform Commission which was formed in 1968. The Commission's work has already proven to be extremely useful: public savings went from a negligible amount to 3.3% of GNP in 1969. Mr. Liu is well versed in the arts; he is an amateur Chinese opera singer and has performed at concerts in New York.

BIOGRAPHICAL STATEMENT

CHI-CHENG CHANG
Minister of Communications

Date of Birth:	December 7, 1918
Education:	Bachelor of Civil Engineering and Doctor of Philosophy, Cornell University
Background:	Professor, National Szechwan University 1944-46
	Professor, National Taiwan University 1953-58
	Senior Expert, Industrial Development Commission 1953-58
	Chief, General Affairs Division, Council for United States Aid 1960-63
	Secretary General, Council for International Economic Cooperation and Development 1963-65
	Vice Minister of Economic Affairs 1969

M. S. CHEN

Chairman, Bank of Taiwan
Chairman, Taipei Bankers' Association

Mr. Chen was born in 1913 in Chekiang. He has a Bachelors degree from the National Chiaotung University and a Masters degree from the London School of Economics.

Mr. Chen has been a banker all his life. Although he is not considered brilliant or a great thinker, he has a great deal of experience in banking. Before coming to Taiwan, he was the Manager of the Nanking branch of the Farmers' Bank of China. After he had moved to Taiwan, he became General Manager of the Land Bank of Taiwan and from there moved to the Bank of Taiwan.

Mr. Chen is the brother of the late Vice President Chen Cheng, who was instrumental in implementing Taiwan's land reform program.

WILLIAM ROY LUCAS

Resident Representative, UNDP

Date of Birth: February 8, 1911

Nationality: New Zealand

Education:	1937-40	University of Otago, New Zealand, economics and political science
Experience:	1937-40	Secretary, YMCA National Council, New Zealand
	1940-43	New Zealand Government, Social Security Department
	1946-48	Friends Service Unit (China), American Friends Committee, Philadelphia, Pennsylvania
	1948-49	Acting Director and Secretary to the Board of Governors of the Institute of Hospital Technology, Hankow, China

United Nations

1949	Registry Assistant, 4th Session UN General Assembly
1950-51	UNRWA Finance Officer, Cairo, Egypt
1951-56	UNRWA Jordan Field Office
1956-58	Director of UNRWA Operations, Gaza
1958-60	Director of Department of Administration of UNRWA, Beirut
1960-62	Director of UNRWA Affairs, Jordan
1962-67	Resident Representative of the UNDP in Korea
1967-present	Resident Representative of UNDP in China

Speech by Minister K. T. Li
at the Ceremony for Signing of
the 2nd Power Loan and 3rd CDC Loan
from IBRD, Saturday, May 16, 1970

As Mr. McNamara has just mentioned, the two IBRD loans we have just contracted are respectively in the amount of US$44.5 million for financing a Taipower expansion project, and in the amount of US$18 million to be relent by China Development Corporation in the form of sub-loans to private industry.

Keeping pace with Taiwan's rapid economic growth, Taipower has been expanding its installed capacity at the annual rate of 13.5 per cent during the last ten years. The increase in power supply, however, has barely met the fast-growing demand, and curtailment has been necessary whenever some emergency arises or when we run into an extended period of draught. To meet further load requirements and to acquire an adequate reserve capacity, Taipower now aims to add, in the course of the current decade, some 5,300 MW to its present installed capacity of 2,200 MW. This will entail a total cost of US$1.86 billion, 40 per cent of which it expects to raise from abroad.

The US$44.5 million power loan we contracted today is for financing a 375-MW thermo unit, two 90-MW hydro units and a second north-south transmission line. It is the second loan received from IBRD by Taipower, which, we are glad to say, has

satisfactorily met the criteria for lending by the IBRD. We are also glad to note that IBRD has once again come to our assistance in one of the most strategic areas in our industrial development program.

I am referring, of course, to the infrastructure of our economy, which has been lagging somewhat behind our rapid industrial growth. So far we have already benefited from one power loan, three railway loans and one telecommunication loan, for all of which we are very grateful.

The US$18 million CDC loan is the third loan received by CDC since 1964, or, if we take into account the 1961 US$4.9 million credit from the International Development Association, the fourth loan it has received from the World Bank Group. I am confident that just as it did with the previous loans, CDC will use the new credit to great advantage in its long-term development financing of the private industrial sector, on whose continual rapid growth the future of our economy depends.

Signing the agreement for World Bank loans usually takes place in Washington. This time, availing ourselves of the opportunity offered by Mr. McNamara's visit, we have arranged to have the documents executed here.

Mr. McNamara, as we all know, is a man of insight, foresight and great drive. As president of the World Bank, he has brought

to bear on it his great wealth of knowledge and experience. A firm believer in that the development of the emerging world and the improvement of its quality of life is one of the biggest and most important tasks of mankind today, he has caused the Bank Group's operations not only to increase in terms of lending for individual projects but also to extend into new areas of assistance with a view to contributing to the vitality, diversity and basic institutional reform of societies in an integrated approach. Accordingly, six areas of development activities have been singled out by Mr. McNamara in the last two years for receiving special attention of the Work Bank; namely, population planning, educational advance, agricultural expansion, employment, urbanization and industrial growth. These are now the fields in which the World Bank is investing its human and natural resources. Progress in these, as Mr. McNamara pointed out, is fundamental to an overall development strategy that will assist developing economics to get into the mainsteam of self-generating growth.

I am glad to note that our development strategy coincides with Mr. McNamara's. The various areas given new emphasis by the World Bank are the very fields in which we are currently making special efforts. We are promoting a family planning movement to bring down our population growth rate to below 2 per cent by the end of the 1970s. We are improving our educational system

by expansion of vocational training and science education and research besides extending basic schooling from six to nine years. To achieve further agricultural advances, a new agricultural development strategy has just been adopted to help improve rural income and farm mechanization. Skill- and labor-intensive production is actively promoted with a view to the creation of more job opportunities and promotion of productivity. A program for urban development, designed for better population distribution and regional specialization, is being carried out. And, as a main feature of our industrialization program, every encouragement is given for establishment and expansion of export industries. Meanwhile, we are liberalizing import controls in order to expose our industries to the harsh realities of open-market competition.

In this context, we are very grateful for the periodic physical examination that the Bank offers us. For the fact of the matter is that the economy has simply been moving too fast and most of us involved in the daily affairs of government have either been too busy to look into the general state of health of the economy or too preoccupied with what may be considered as tactical rather than the overall strategy of development. I am, of course, referring to the Country Economic Missions that have been given renewed emphasis since Mr. McNamara joined the Bank. I would like to avail myself of this to thank Mr. McNamara for

the very strong missions that have come to visit us from time to time and to assure him of our fullest cooperation.

It is our earnest hope that he will enjoy his short trip here. We are also hopeful that after an on-the-spot inspection of our development efforts, he will let us benefit from his candid comments and wise suggestions.

NEWS RELEASE NO. CIECD-363

Robert S. McNamara, President of the World Bank, will arrive in Taipei on Saturday, May 16, from Seoul for a four-day visit. While here, the World Bank President will sign two loan agreements totaling US$62.5 million for the expansion of power generation and development financing in the Republic of China.

One of the loans, amounting to US$44.5 million, will be extended to the Taiwan Power Company to help finance its Talin No. 4 project, and extend its transmission line system. A US$13 million loan will be granted to the China Development Corporation for development financing purposes.

During his four-day visit here, McNamara will meet leading government officials. He will confer with Finance Minister K. T. Li, Central Bank Governor Yu Kuo-hua and government economic authorities to learn first hand the economic achievements and prospects in the Republic of China. He will also exchange views with a number of leading Chinese educators, scholars, and industrialists.

On May 17, the World Bank chief will visit the land reform exhibition at Taoyuan. From there, he will proceed to Taichung, where he will meet with Provincial Governor General Chen Ta-ching and visit the Family Planning Institute.

He will be received by President Chiang Kai-shek on May 18. In the evening, he will be entertained at dinner by Vice President and Premier C. K. Yen, and Vice Premier Chiang Ching-kuo. He is scheduled to leave for Paris in the afternoon of May 19.

McNamara, 54, assumed in April, 1968 the presidency of the International Bank for Reconstruction and Development (IBRD), more commonly known as the World Bank, and its two affiliates, the International Finance Corporation (IFC), and the International Development Association (IDA).

McNamara was the Secretary of Defense of the United States from January 1961 to March 1968.

Before that, he served as President of the Ford Motor Company. His association with Ford dated back to 1946. After leaving the U.S. Air Force as a Lieutenant Colonel, he joined the Company to manage the planning and financial analysis offices. In a series of promotions, he served as comptroller, assistant general manager, vice president and general manager of the Ford Division, and later as vice president and group executive of the Car and Truck Divisions. In 1957 he was elected as director of the Company and appointed to serve in the executive and administrative committees. In November, 1960 he was elected President of the Ford Motor Company.

During the second World War, McNamara went to England to help the U K War Department, as a civilian consultant, to set up a statistical control system for the flow of material, money and personnel. He was commissioned as a

Captain in the U.S. Air Force while in England, and subsequently served in India, China, and the Pacific.

McNamara was born on June 9, 1916 in San Francisco. A graduate of the University of California in 1937, McNamara received his MBA degree from the Harvard Graduate School of Business Administration in 1939.

He held the position as assistant professor of Business Administration at Harvard University from 1940 to 1943. During that time, he also served as a consultant to the U.S. War Department on the establishment of a statistical control system for the U.S. Air Force.

McNamara married the former Margaret Craig in August 1940, and they have three children.

During his visit to the Republic of China, McNamara is accompanied by his wife, Raymond J. Goodman, Director of the Bank's East Asia & Pacific Department, William Clark, Director of the Bank's Information and Public Affairs Department, Leif Christoffersen, Personal Assistant to McNamara, and Jochen Kraske, Area Officer of East Asia and Pacific Department of the World Bank.

INTERNATIONAL DEVELOPMENT ASSOCIATION | INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT | INTERNATIONAL FINANCE CORPORATION

Mr McNamara to see Cec 4/28

OFFICE MEMORANDUM

TO: Mr. Douglas Fontein

DATE: April 23, 1970

FROM: Shu Chin Yang

SUBJECT: CHINA - Back-to-office Report of an Economic Mission

An economic mission consisting of S.C. Yang (Chief), R. Cheetham, S. Cnossen (IMF), Z. Kalim, J. Purcal and G. Reif visited the Republic of China during March 11 - April 4, 1970. Mr. J. Baranson was also with the mission for about two weeks to study the automotive industry at the request of the Chinese Government. I returned to Washington on April 13 after a visit to Seoul for the ADB meeting. The following is a summary of the tentative findings of the mission.

Chinese planners have in the past been too conservative in setting up the growth targets. Consequently, the demand for infrastructural services and the financial requirements have been underestimated. The development of the power and the transportation sectors has been lagging behind. In the new ten-year projections up to 1980, the planning staff is now using an 8.5 percent GNP growth rate, but the authorities are doubtful whether this would be too high to achieve. The mission cautioned them about the drawbacks of underestimating the growth potential and reassured them that the new higher target appears more realistic than the 7 percent growth assumed in the Fifth Plan (1969-72), considering the achievement of an average 10 percent annual growth rate in the past decade.

Agriculture, already very well developed after the successful land reform began to face new problems arising out of structural changes in the economy. Because of the rapid industrialization, and the continuous movement of labor from rural to urban areas, agriculture is feeling the pinch of labor shortage and rising farm wages during the peak seasons. At the same time, the costs of agricultural inputs, particularly fertilizers, remained high. The Government has recently reduced considerably the prices of fertilizers, but in the long run, farm mechanization will have to be stepped up to increase agricultural productivity per man so as to increase more rapidly per capita farm income and to further release labor for industry. The mission therefore suggested that a comprehensive program of farm mechanization should be worked out and in this connection a pre-investment study on agricultural mechanization and agricultural credit may be necessary. ✓

Taiwan's industrial structure has grown more and more sophisticated. Progressing from the processing of agricultural products through the development of light industry (particularly textiles), Taiwan is now well established in electronics, electrical

President has seen

appliances and light electrical machinery production. It is now entering into intermediate and basic industries, such as petro-chemicals and possibly iron and steel, as well as into more skill-intensive fields, such as optical and precision tools industries. The large textile and garments sectors continued to flourish with growth rates of 20-25% a year and are shifting towards production of higher quality and finished goods (with increasing use of man-made fiber and blend fabrics). The remarkable expansion of electronics and electrical machinery industry is not only stimulated by rising exports but also by growing domestic demand. Attracting investments from almost all the major US electronic firms and also some Japanese firms, the Government expects that Taiwan will become one of the world's production centers in TV and radio sets, or even computers. The Government is making efforts in producing more parts and components locally. The Government is also promoting production of optical articles and precision tools and other similar industries.

Since the future industrial development requires the use of advanced skill and technology, the mission pointed out that due emphasis should be given to research on applied technology and to education in business management and that both should be geared closely to the needs of industry. The recently embarked large-scale program of science education seems to have neglected these two fields.

The rapid expansion of the textile industry has led to a substantial increase of demand for synthetic fibers. Since there are naphtha cracking facilities existing in the well-established petroleum refinery industry, the Government is planning to go into the basic petro-chemical industry. Two complexes are now planned: one in the south of the island near the Kaohsiung refinery and one in the north near the source of the natural gas. Products will include ethylene, propylene, acetylene VCM, B-B fraction and aromatics.

For years, the Government has been preparing the construction of an integrated steel mill, following a path of "backward integration" in three stages to match expected market demand. The growth of demand for steel products is estimated at 10 percent a year up to 1975 compared with 8 percent a year during 1960-69. Steel consumption in 1969 is around 1 million tons of mixed products of which 60 percent was used for structures and bars, 30 percent for machinery and industrial production and 10 percent special steels. A rate of return of 12 percent on the investment is expected when the second stage will be in operation before 1980, with a capacity of 1 million tons of crude steel. The Steel Mill Committee has asked in a general way whether the Bank or IFC would be interested in financing or investing in the mill.

The Government has offered various incentives to stimulate investment and exports. Tax incentives have been thoroughly reviewed by the Taxation Reform Committee and it is likely that there will be generally no substantial reduction of incentives. The incentives offered added together appear to be excessive. In a recent survey, most enterprises rated political and economic stability and the availability of cheap and good quality labor as most important factors. The Government however argued that Taiwan is competing with other developing countries in attracting foreign investment and therefore cannot reduce the incentives. It seems there is a great competition among developing countries in offering investment incentives. By this competition these countries may have to some extent unnecessarily hurt themselves. However, unless some kind of international "code" can be agreed upon, benefits of development flowing out could be too much.

The Kaohsiung Export Processing Zone has now been fully occupied. But with all the benefits and concessions offered to foreign investors, net export earnings from the zone appear too small. It is possible that some of the export prices might have been under-reported and some of the prices of their imports (mostly materials or components) overstated, especially by the foreign firms' subsidiaries. The portion of value added by labor seems very small, in view of the low wages of about $25 a month.

Manufacturing branches catering for export markets seem generally doing well, particularly those who also supply substantial quantities to the domestic market. But those branches supplying mainly the domestic market by way of import substitution seem inefficient, producing at high costs. A particular case is the automotive industry. Protection on import-substituting industries appear to be too high. In addition to the regular tariffs, there are added tariffs, harbor charges, import restrictions and requirements of minimum amount of domestic components in certain manufacturing industries. The mission suggested that the whole protection problem, particularly import control, should be thoroughly examined, and that the Government should try to shift its emphasis from quantitative import controls to tariffs. In this connection, the Minister of Finance and Chairman of the Taxation Reform Commission asked whether the Bank can provide technical assistance for the tariff reform. A study of the effective rates of import duties has already been made by some Chinese economists. What they need now are apparently practical experts on tariff nomenclature and industrial structure to design new classifications, reflecting the complexity of the economy today. The Fund in connection with its technical assistance on tax reform to the Republic is also interested in providing technical assistance on the tariff reform.

Realizing the lag of infrastructural development, the Government is stepping up investments in power and transportation. In projecting future demand for power and transportation services, more realistic higher GNP growth rates than that in the Fifth Plan are now being used. Several new projects not included in the Plan are also under active preparation, e.g. the North-South Freeway, a new port near Tai-chung and a new airport in Tao-yuan.

The UNDP is providing technical assistance in preparing a comprehensive transport survey which will be ready by August and a study on urban planning and development. The transport survey team has already identified the North-South Freeway as a high priority project. The ADB is financing a northern portion of the freeway. The Vice-chairman of CIECD and the Finance Minister have asked whether IBRD would be interested in financing most of the southern portion of the freeway from Tainan to Fengshan-Kaohsiung (55 km).

The cost-benefit comparison of the planned Tai-chung port seems unclear. Apparently, the construction cost (now surveyed by a Japanese team) is fairly large and there can be alternative ways of removing goods to and from the Tai-chung area, particularly if the freeway is completed, the railway capacity further increased and the other ports expanded. The Government has not made up its mind about building an oil port in the north, instead it may just construct some handling facilities.

In urban development, the mission feels that with the rapid growth of traffic in the Greater Taipei area sooner or later, a metropolitan transport system has to be considered. In addition, in the Greater Taipei area, with the new town of Linkou being built, more water supply and drainage facilities would also be needed and a pre-investment study in this regard may be called for.

The Government asked emphatically the Bank to consider local cost financing in the Bank's future lending to the Republic for two reasons. First, although the Government has already taken measures to increase revenue and public savings, expenditures on public education and science development have at the same time also increased and so have salaries of Government employees which have been very low. Thus, the increase of Government savings, although significant, will not be sufficient to meet the large investment requirements which are necessary to make up the lag in the infrastructural development. Moreover, there is practically no bond market in the Republic and the market interest rates are high; it is therefore difficult for the Government to finance these investments by large bond issues. Secondly, because the growth of local industries, a substantial portion of supplies for the projects, particularly highway projects can be obtained locally.

The fiscal performance has indeed been impressive. After the establishment of the Taxation Reform Commission, several tax law revisions have been enacted, particularly on personnel and business income taxes. Several other tax revisions have also been drafted. Meanwhile, tax administration has been straightened. As a result, total current revenue in 1969 increased by 22% amounting to 24% of GNP. Further substantial increases are expected.

The Committee on the revision of the Banking Laws will complete its report in May and an IMF technical assistance team will come then to review the recommendations. Not much has been done in the development of capital markets. The Finance Minister is apparently giving higher priorities to tax reform, improvement in public debt management and the revisions of the banking laws. He regarded the establishment of a public accountant system and the revision of laws on commercial and banking bills and other instruments as two prerequisites of developing the capital market. He expressed appreciation of IFC's technical assistance in providing advisory services from Mr. Mauritz.

The Republic's export performance is impressive and the balance of payments position comfortable. Merchandise exports increased by 32% in 1969 and trade deficit declined from $140 million in 1968 to $78 million in 1969. Foreign exchange reserves at the end of 1969 were the equivalent of about 4 months' imports of goods and services and the debt service ratio in 1969 was about 6 percent of exports of goods and services. An external debt data center is being set up in the Central Bank and the mission has offered technical assistance from the Bank for external debt reporting and data processing.

More detailed information and analysis on the Republic's economic situation are contained in the attached statement of mine made at CIECD.

Enclosures: Statement.

cc: Mr. R. Goodman
Mr. G. Street
Mr. O. McDiarmid
Mr. J. Kraske
Mr. S.C. Yang
Mr. J. Purcal
Mr. G. Réif
Mr. Z. Kalim
Mr. R. Cheetham
Mr. S. Cnossen (IMF)
Mr. R. McNamara
Mr. I. Friedman
Mr. A. Kamarck
Mr. A. Stevenson
Mr. J.H. Adler
Mr. M.L. Weiner
Mr. A.D. Knox
Mr. L.J.C. Evans
Mr. H. Fuchs
Mr. R. Sadove
Mr. D.S. Ballantine
Mr. W. Diamond
Mr. L. von Hoffman (IFC)
Mr. C.F. Owen.

RESTRICTED
April 13, 1970

Statement of MR. SHU-CHIN YANG, Chief, World Bank Economic Mission to the Chinese Officials at the Council for International Economic Cooperation and Development, Taipei

Mr. Vice Chairman, Minister Li, Gentlemen:

We are glad to have this opportunity to discuss with you in this gathering the economic situation and prospects of Taiwan in the Republic of China. You may recall that during the visit of the last Bank economic mission two years ago we said we were impressed with the continuous rapid economic growth in its many facets. We have now observed that this healthy trend has continued with even greater vigor. Many further important improvements in economic performance have been made in the last two years. Apparently a dynamism has already been built into the economy so that prospects can be nothing but promising. I speak of dynamism not in a vague sense, for I found in a Chinese proverb a very precise meaning, that is "to make appropriate adjustments with respects to the time and the place where you are". As I shall explain further, there has been ample evidence of efforts in making this kind of economic adjustment to cope with new situations and new problems in Taiwan. Such dynamism is an assurance of economic progress and it is no wonder that the Republic of China has exemplified that rapid growth can work in the less developed world.

Growth Rate and Planning

The best summary of the good economic performance in recent years is perhaps the fact that a high growth rate has been sustained with relative monetary stability. Gross Domestic Product at constant prices increased by 10.0 percent in 1967 and 10.3 percent in 1968. Because of a slight fall in agricultural production caused by typhoon damage, GDP is officially estimated to increase by 8.9 percent in 1969. By using more up-to-date balance of payments data, however, the Mission has estimated the 1969 GDP growth rate would be 9.2 percent. The level of wholesale prices was stable, while the cost of living index rose by 5 percent due largely to a rise in the prices of services. The exchange rate has been stable. The economy of Taiwan ends up with an average annual growth rate of 10 percent for the sixties, double the average target of the UN First Development Decade. This is certainly a remarkable achievement.

The strength of the economy which has been so clearly demonstrated should be recognized by the planners. In formulating future development plans, we think it is important that the planners should assess as objectively as possible the growth potential of the economy. It is comforting to say that one has over-fulfilled the target. But looking from

another angle, we can also say that the target has understated the growth potential. A planned development means to achieve as much as possible in a rational way what the economy can potentially achieve, without upsetting internal and external stability. An understated growth target in a plan has its drawbacks. It tends to underestimate the financial resources required and thus the Government may be caught relatively unprepared when the actual needs prove to be greater than envisaged. Also, it gives an inappropriate indicator to the individual sectors, particularly of infrastructural services requirements. A lagged infrastructure can be a bottleneck in the development of the production sectors.

The last Bank mission commented on the lag in the development of the power and transportation sectors. Since then, investment in these sectors has been stepped up. We are also glad to see that in the projections of future demand for power and transport facilities, more realistic GNP growth rates have been used. However, the assumed growth rates for these two sectors are different. This discrepancy may cause an inconsistency in the development plan. It is gratifying to know in the new Ten-year Long-range Development Plan, the planners are thinking of using a growth rate higher than the 7% in the Fifth Plan. The Mission fully endorses this more realistic approach. We believe the new growth target will, in turn, raise the employment target which is important in an economy facing rapid increase in the labor force for at least another decade.

Development Strategy: Agriculture

Taiwan has been a model of balanced growth between agriculture and industry. However, the rapid industrialization in recent years has brought in its train significant repercussions on agriculture. Taiwan's agriculture after the successful land reform has developed well. The problems it is facing today are problems of development pertaining to a higher stage, not problems of underdevelopment. These are new problems arising out of structural changes which occur inevitably as a consequence of rapid industrialization.

The rapid growth of industry at about 18 percent a year and agriculture at almost 5 percent a year in the past 10 years or so has resulted in a continuous shift of the labor force from agriculture to industry. Available statistics show that Taiwan's labor force grew at an average annual rate of 6.3 percent from 1966 to 1969, but the labor force employed outside agriculture grew at 9.5 percent. Agriculture's share in the labor force fell steadily from about 43 percent in 1966 to 39 percent in 1969. Also, there has been apparently a large increase in the number of people who commute from farms to work in the nearby urban areas on non-farm jobs and there has been a shift of farm people who engage in seasonal work in agriculture to seasonal or regular work in industry or services. Such shifts involve mostly young people from small sized farms. These changes have apparently resulted in seasonal shortages of farm labor and in changes in age structure of the labor force remaining in agriculture.

The agriculture wage per day rose by 16 percent in 1968 and almost 19 percent in 1969.

With rising wages and seasonal shortages of labor on the one hand and little change in the cost of capital inputs and farm prices, agriculture is now being caught in a cost-price squeeze. Although hired workers in family-oriented agriculture in Taiwan are not as large as in developed countries, with continuous rapid industrial growth envisaged for the future and continuous large income gaps between urban and rural sectors, the labor supply problem in agriculture may tend to become more and more acute. We think the Government is wise to start to deal with this problem now. The Mission feels that agricultural development strategy at this stage must center around the encouragement of more capital investment to substitute for labor. The effect will be to raise agricultural productivity per man-day and release more labor for employment in industry. Only by an increase in agricultural productivity per man-day can the income gap between agriculture and industry be prevented from widening.

To implement this strategy two questions arise: the cost of capital and the size of the farm. In the use of working capital such as fertilizer, insecticides, etc., the small farm size is not a great handicap. Here the question is how to lower the costs of these inputs. The last Bank mission commented on the transmission of high costs of import-substitution in fertilizer production to agriculture and the hidden tax on agricultural inputs rather than on output through the rice/fertilizer barter system with ratios unfavorable to the farmers. We are now glad to learn that the Government has reduced the rice/fertilizer barter ratio several times since our last visit with a substantial reduction being announced recently. We think it is also wise that the Government has closed the fertilizer plant with the highest costs of production. However, despite the reduction in the rice/fertilizer barter ratio and cash fertilizer prices, the costs of domestically produced chemical fertilizers to the farmers are still high. The ex-factory price of urea is about $95 per m.t. and the barter exchange price of urea, calculated at the present level of rice price, is $145, as compared with world market price of $65-70.

We think it opportune to reconsider whether or not to continue the present rice/fertilizer barter system. The system which has served useful purposes for many years may have now reached a point at which re-examination is required. The system has a built-in rigidity which hinders the farmer's choice of crops and his choice of different types of fertilizers to be used in growing different crops. It has prevented the optimal allocation of agricultural resources. An eventual return to free markets for fertilizers and rice with some device to stabilize rice prices may be weighed as a better alternative.

The use of fixed capital on farm, or farm mechanization, is largely conditioned by the farm size and the availability of credit. While there is undoubtedly scope for the development of contract farming, ultimately farm size must be adjusted as labor moves out to industry. Some new approaches to faciliating the consolidation of the smallest of farms may be useful, including measures to encourage the transfer of land between the farmers themselves, with appropriate modification of existing land legislation.

Regarding farm mechanization we are glad to know that the Government is making available loans through the existing financial institutions to the farmers for purchasing farm machinery. Here again, agriculture and industry meet at crossroads. It is important that the farm machinery industry should be improved in efficiency and in producing the most suitable types of machinery for Taiwan farms at reasonable costs. A comprehensive program of farm mechanization should be worked out to include all the related aspects such as land consolidation, production and imports of farm machinery of the right type, maintenance facilities, purchases and renting of farm machinery with suitable farmers' organization, etc. Against the program, the agricultural financial system should be reviewed to determine what improvements and changes should be made in channelling both domestic and foreign funds into this program. Since these interwoven problems are quite complicated, a pre-investment study on agricultural mechanization and agricultural credit may be necessary.

Another important question in agricultural land use policy is the development of livestock and new crops on marginal lands. However, we wonder whether a higher return might not be obtained from investment in further developing existing agricultural land. By raising productivity on rice farms, for example, it may be possible to shift some land out of rice production into alternative uses. As yet, there appears to be insufficient data to justify heavy investment in a livestock industry on the slopes. What is needed is a careful assessment of the scope for raising productivity on existing land with increased use of non-farm inputs, land consolidation, etc., as compared to the costs and benefits of developing slopelands. For the foreseeable future it may be better to continue specialization in food crops for export and to meet beef requirements by imports rather than to develop what may prove to be a high cost domestic beef industry.

Development Strategy: Industry and Trade

Export expansion, cheap labor and various incentives offered are the main factors for the continuous rapid increase in manufacturing production. The supply of cheap labor will continue for some time. Although the surplus labor in the agricultural sector is becoming smaller, urban underemployment appears to be still substantial, particularly in

the commerce and services sectors. Moreover, farm mechanization will continue to release labor from agriculture to industry. Another indication of the ample supply of labor is that wage rates have risen rather slowly in recent years as compared with for instance, Japan and Korea. However, there appear to be shortages of skilled labor and technicians. With growing sophistication of production the need for expanded technical education and skill training is great. The previous mission emphasized this point and we welcome the various measures the Government has undertaken in this regard. These include the expansion of free schooling from the 6th to the 9th grade and the expanded vocational education system through adding industrial courses to the agricultural and commercial vocational schools, the encouragement to private sector to set up junior colleges and vocational schools, and the expansion of engineering departments of teachers' colleges. We hope that in due course the shortage of teachers at the vocational schools will be alleviated.

On a higher level, we noted the Government has embarked upon a rather large-scale program of science development. We hope that due emphasis will also be given to research on applied technology and to education in business management and be closely tied to the needs of industry. The lack of modern management and technical know-how are great handicaps to the expansion of local enterprises.

The offer of various incentives has continued to be instrumental in stimulating investment and exports. The Government has in recent years, made great efforts in streamlining the incentive system. The methods of rebating import duties on materials for making export commodities has, since October 1969, been simplified by using standard coefficients rather than examining each case individually. This is a welcome improvement. Tax incentives for including investment have been thoroughly reviewed by the Taxation Reform Committee. The incentives offered compare favorably with those found elsewhere. Now that the basis for further industrial development has been laid, the Government may wish to give more weight to its revenue requirements. The geographical location, the business climate and the availability of cheap, but fairly skilled labor, may be inducement enough.

Judging from the performance, those manufacturing industries catering for export markets seem to be doing well. But we are not so sure about those industrial branches which supply the domestic market by way of import substitution. The crucial point here is the level and structure of protection. Protection takes several forms, the most visible one is the customs and its associated duties. The actual rates of all duties are generally more than 50 percent of the nominal rates. In addition, and more importantly, there is import control. Items may be transferred from "permissable" list to the "control" list if it is proved that the goods produced locally are of good quality and available in adequate quantity and their price is not more than 10 percent higher

than the landed costs of comparable imported goods, including all duties. Since this is not strictly enforced, at least in the first two years, and since it is difficult to police the prices in any case, this less visible protection can be very important and very arbitrary. Thirdly, current regulations which require a certain local content for manufacturing 13 products, are aimed at ensuring markets for local suppliers. Since the production of local intermediate inputs already bears high costs as a result of the other two protective measures these administrative requirements of course, also raise the costs of the final products. We are glad to note that the Government intends not to expand the local content requirements.

For the development of infant industries, it is necessary at the early stage to apply protection. However, when a number of industries have developed and the industrial structure has become more and more sophisticated, protection of one industry would hurt other industries which use its outputs as their inputs. If all the industries which are so hurt in turn also ask for more protection, the level of the whole cost structure of the manufacturing sector will go up. For a while, this may help to reduce imports and improve the trade balance. But sooner or later the high costs will be transmitted to other sectors of the economy, such as the export and the agricultural sectors. The sheltered industrial growth will also exercise more pressure than otherwise on the demand for services, particularly "hard services", such as power and transportation. Therefore, the level and structure of protection is a very important element in mapping out future industrial development strategy. In order to maintain a balanced growth of the economy, the Mission reiterates the recommendations of the last mission that domestic content requirements and import control should be further liberalized, to be replaced as much as possible by tariffs. The tariff system should be thoroughly overhauled and we understand this is high on the Government's agenda. We certainly agree that import liberalization and tariff reform should have a high priority in designing future development policy.

We understood that the Government intended to review each year one-third of the commodities on the import control list. However, it seems that very little progress has been made except for a small number of controlled commodities which were shifted to the permissible list. We feel it is urgent to resume this task and it should be completed before but in connection with the revision of the tariff system. After the tariff reform is implemented, a joint tariff and import control commission may be set up to review jointly any further decontrol or new cases for import control or changes in import duties.

Infrastructure

Owing to rapid industrialization and urbanization the demand for electric power has been growing at a rate of 14 percent a year during the last 8 years or so. We have noted with satisfaction that in the last 2 years the Government has increased considerably the supply of power and power curtailment has reduced substantially to a small margin in 1968 and 1969. The supply of power will have to keep pace with future economic development and in this connection we are glad to see that future power demand has been projected on the basis of a 9.5 percent GNP growth rate and an increase of 12.9 percent a year is expected. Taipower envisages adding 3,600 MW by the end of 1976 to the existing generating capacity of 19,000 MW. This addition seems realistic.

The underestimation of investment requirements in transportation and communication is also recognized by the Government and we understand that the revised investment programs for the transportation sector, assuming a GNP growth rate of 8-8.5 percent a year, are under preparation. We also understand that in addition to the investment funds in transportation and communication contained in the Fifth Plan, several new projects not included in the Plan are now under consideration or preparation, such as the North-South Freeway, the new port near Taichung, the new airport in Taoyuan. The rapid growth in the present and expected road traffic seems to justify the construction of the North-South Freeway. The Mission welcomes the rescheduling of the project which will first construct the highly traffic intensive portions in the north and the south. We consider it is also an excellent idea to tie in the freeway system with urban planning in Taipei, the planned new city in Linkou and the planned international airport in Taoyuan. With the 3rd IBRD railroad loan, the capacity of the railroad system continues to expand. Future development should however take into consideration the relation with the North-South Freeway and any planned new harbors.

With fast growth in foreign trade, all the three international ports are congested. The expansion of the three harbors is underway, but there are topographic limitations, particularly in Keelung. This led to the planning of a new harbor in Taichung. While the economic development in Central Taiwan which has surplus labor and agricultural and industrial potential will be faciliated by a nearby harbor, these and other benefits should however be carefully weighed against the costs involved and the alternative ways of moving goods. We understand an overall transportation survey of Taiwan is under preparation by Robert Nathan consultants under UNDP. This survey may give some clues for evaluating the economics of the new harbor. The survey will outline a coordinated transportation development program which can serve as a base for the government's future transport investment plans.

In the Fifth Plan, the Government has rightly emphasized urban development, with high priorities being given to the greater Taipei area in the north and the greater Kaohsiung area in the south. In the greater Taipei area, the sewerage project is under preparation, but water supply and drainage projects also appear to be needed and a pre-investment study in this regard may be called for. In terms of long range planning, a possible metropolitan transport system may be worth considering, particularly from the point of view of reducing the need for cars and motorcycles and thus alleviating the parking and air pollution problems.

Prospects of Domestic Finance

The previous Bank missions have repeatedly emphasized the need for increasing Government savings to finance infrastructure development and to increase salaries of civil servants and teachers to appropriate levels. We have pointed out particularly the importance of raising Government revenues. We are happy to note that giant steps have been taken in the field of taxation. In less than two years the Taxation Reform Commission and the fiscal authorities have done an admirable job. Government revenues have already increased impressively - 22 percent in 1969 and more than 25 percent is expected for 1970. The current budget will permit a much needed increase of the salaries of the civil servants, teachers and military personnel by 20-30 percent.

The largest increase in tax revenues comes from income tax reform and improvements in tax administration. Other tax reforms affecting commodity tax, business tax, stamp tax, land tax, etc. are in the making, aiming largely at rationalizing the tax structure, thus effecting a more optimal allocation of resources. We think the value-added tax has many good features and should be seriously considered. From the revenue point of view, however, we feel particularly that wine and tobacco monopoly profits can be increased by raising the prices of cigarettes, wines and liquor which have not changed since 1963. We agree that excise taxes should be retained on a number of items if the value-added tax is to be introduced. More than that, excise taxes on some luxury items may be increased or added in order to check the increase of consumption.

We maintain that there is still considerable requirements of public funds for financing infrastructure development. The local cost portion of these finances cannot entirely rely on bond issues because it is difficult for the slow yielding projects to bear the rather high market interest rates in competing with private industry on the capital market.

In 1969, the increase in tax revenue was so drastic that the Government stopped the second issue of public bonds. However, to finance the expansion of power capacity, the construction of the freeways and other projects, more medium and long-term bonds will have to be issued either by the Government, Government investment banks, or the enterprises themselves. The development of the bond market and the management of public debt will therefore need to be carefully studied. At present, the Government bonds are redeemable any time at par which are not different from savings deposits to the bond holders. Thus the bonds do not have the function of mobilizing long-term funds. And with their rather short period of amortization the annual debt service burden of the Government is rather high. We feel the Government can issue bonds with longer period of maturity. Since bonds under the present arrangements are similar to savings deposits, it makes no difference for the bond holders to buy bonds with 5 year maturity or 7 year maturity. But a long maturity bond will reduce the annual debt service of the Government. However, if the bond price is still fixed at the face value and redeemable at any time, the existence of large potential liquid assets in the private sector can be an unstable factor. It would therefore be advisable to relax the pegging of the public bond price and to encourage the transactions of bonds on the market.

In its report, the last economic mission recommended revisions of the banking laws to allow a more modern approach to bank financing of industries. It is gratifying to note that the Government has already in 1969 allowed commercial banks to lend as long as five years as compared with only one year before. In 1969, the Ministry of Finance also set up a working team responsible for revision of the banking laws and submitted to the Executive Yuan a comprehensive program of modernizing banking business. The Mission welcomes particularly the idea of appointing some Government banks to specialize respectively in long-term industrial finance, long-term agricultural finance and export finance.

We also noted with satisfaction that the Government is vigorously promoting savings, through various media, including postal savings. We hope those savings with long-term character will be directed to long-term financial institutions or for purchasing Government bonds.

External Finance

The Republic's balance of payments showed impressive improvement in 1969. Reflecting the industrial development and export promotion measures in the past years, merchandise exports rose by 32 percent in 1969, sizeably higher than the 27 percent increase in 1968. Merchandise imports increased by 22 percent in 1969. The deficit on current account was reduced from $118 million in 1968 to $50 million in 1969, which is less than 5 percent of total current foreign exchange receipts. Gross foreign exchange reserves stood at $477 million at the end of 1969,

equivalent to more than 4 months value of imports of goods and services.

In response to the favorable investment climate, the net inflow of foreign and overseas Chinese investment rose sharply from $27 million in 1968 to $51 million in 1969. The inflow of long-term loan capital also rose from $47 million to $74 million. The large increase in all capital inflows exceeded the current deficit and resulted in an increase of almost $90 million of foreign assets. The Republic has adopted a cautious policy toward foreign debt. Total external debt outstanding at the end of 1969 amounted to about $720 million, of which 60 percent are from official sources and 40 percent private loans. The debt service ratio is estimated at 6 percent of current foreign exchange receipts which is indeed low. We understand that the authorities are planning to centralize the external debt data compilation and streamline the flow of information to the policy-makers. This is a laudable attempt. In case the authorities find it necessary to obtain technical assistance in the external debt data processing, the Bank would be glad to provide such assistance.

Conclusion

In short, we feel that the economy of Taiwan has developed to a more sophisticated state with complicated inter-industrial relationship. A development strategy is needed to maintain a balance among agriculture, industry and infrastructure on the one hand and to balance export promotion and import substitution on the other. Too much protection on industry would raise costs to agriculture and create more serious labor shortage in agriculture. It would also exercise much pressure on the infrastructure, particularly power, transportation, housing, and other urban facilities. In due course, the high costs would also be transmitted to the export sector. The Mission feels that it is high time that the whole protection system should be examined in total with a view to reducing the level of protection and stimulating efficiency in industrial production. Particularly import control measures should be thoroughly reviewed before and in connection with a tariff reform.

These are our tentative observations from our short visit. We shall study in more detail the material supplied to us after we return to Washington. The final findings and recommendations will be contained in our report which will be ready this summer.

We like to take this opportunity to express our gratitude to you, Mr. Vice Chairman, Minister Li and all others whom we have met for the graceful hospitality and cooperation so kindly rendered to us. To all of us this has been one of the most rewarding and inspiring experiences we have had in all our missions abroad.

April 30, 1970

IMPLICATIONS OF FERTILITY AT REPLACEMENT LEVELS FOR TAIWAN*

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*The data on which these projections are based are drawn from the publications of the Taiwan Provincial Department of Civil Affairs in such volumes as their 1968 Taiwan Demographic Fact Book. In the preparation we wish to acknowledge the assistance of Carolyn Lee in the programming for the computer work and of a number of colleagues in Taiwan and in the United States in discussing results. The present brief report is based on a small part of the large number of projections produced. These will be the basis for a longer publication later.

Taiwan's population will continue to grow for at least 60 years, even if fertility rates drop immediately to levels producing about two children per family. Taiwanese birth rates have been falling fairly rapidly since about 1959. However, even if in 1968 the Taiwanese age-specific birth rates and death rates had fallen to the low levels characteristic of Japan, the Taiwan population would have continued to grow until about the year 2030. At that time it would level off at a maximum population of about 22 million--about 60% higher than the 1968 population.

It may seem surprising that even if fertility falls immediately to the universal (average) two-child family, that population still grows for 60 years. Japan is a good case in point of how and why this happens. Japan's fertility has been just about at the two child standard (net reproduction rate of 1) since about 1955. Yet, its population is not expected to stop growing until about 2015. It is still growing by about a million additional people per year. The explanation for Japan and for most other countries is the same: a prior history of higher fertility above the replacement level means that the population is young, with relatively many in the young childbearing years. While each young couple has few children, there are so many of them that they produce large numbers of

babies, so the population continues to grow. It takes about 60-70 years for the age-composition of the population to change to that which goes with a stationary population. The length of time required depends, on the previous history of the population. A country which has had a low birth rate for a long time will go through this transition more quickly and easily. Taiwan has a history of high birth rates. Besides, its post-World War II "babyboom" has produced a very large number of young people, and it will have a very large increase in the population in the age groups 20-34 in the next few decades.

Of course, no one expects Taiwan's birth rate to fall so rapidly that the net reproduction rate would become 1 immediately. That would mean a fertility decline of 50% instantaneously. Therefore, it is likely that the population growth of Taiwan will go on beyond the year 2028 and to more than 22 millions.

One way to examine consequences of different trend possibilities is to ask how much Taiwan's population would grow, if its vital rates converged to those of Japan at various times in the future--1978, 1988, 2018, etc. The later the date selected the more gradually the rate of decline, of population growth. Japan has been taken as the reference point because it is an East Asian country with reproduction rates close to the replacement level and already demonstrating the trends of interest.

In Table 1 we show the approximate levels reached by Taiwan's population by specified future dates, assuming that starting from the 1968 known base, its age-specific birth rates and death rates converged to the Japanese rates of recent years. These projections can be made in various ways, as explained in Appendix A. However, the general course of the trends and their magnitudes in the long-run are rather similar for alternate projections.

As one point of comparison for all of the projections, we can ask how Taiwan's population would grow, if there were no further changes in vital rates from the 1968 level. As the last row of Table 1 indicates, under these conditions the population would grow by about 68% to about 23 millions in the year 1988, by 173% to 37 million in the year 2008, and to 61 millions (344% increase) by the year 2020. By the year 2168, if this continued the population of Taiwan would be 1,728,000,000!

No one expects the population of Taiwan (or of any other place) to continue to grow at these rates over the long run. Over most of man's history population growth rates have been much lower than they are now. The present high rates can only be temporary. Therefore, projections, such as the present set are really asking how long it will take under various conditions for the population to stop growing, how big it will be by that time, and how the age-sex structure of the population will be affected.

Table 1 indicates that Taiwan's population would grow to someplace between 22 and 37 millions, depending on how rapidly the age-specific rates fall to the replacement level characteristic of Japan. The difference is in how rapidly the change occurs. For example attaining the Japanese rates by 1988 instead of 1978 means that the maximum population is reached about 5 years later and is about 2.6 millions larger. Taiwan's official long-run policy does not set such long-run goals. However, even with its rather vigorous family planning program, it would be remarkable if the net reproduction rate of 1 were reached by 1978. Doing that would still mean a 73 percent increase in population (from 1968) to a total of about 24 million. This would produce a population density of 1730 per square mile.

An important consequence of fertility declines is a change in the age distribution toward an older population. Table 2 illustrates how the age distribution and sex-ratio of Taiwan would change under several assumptions from the 1968 level. Under any of these assumptions the eventual age-sex distribution will be the same--that is once stationary population is reached.

Similar trends to those apparent in the total population can be seen in the vital rates inherent in these projections. (See Table III.) A constant trends projection, indicates a birth rate of about 30 per thousand, a very slowly rising death rate (rising in response to the aging of the

population caused by fertility declines of the last ten years), and a rate of natural increase of about 2.4% per year--higher than at present. It should be noted that at present the age structure of Taiwan is unfavorable to fertility and that during the next twenty years the large number of people in the post World War Two birth cohorts will lead to inflated birth rates of about 33 per thousand without any rise in age specific rates.

In comparison, the two projections assuming Taiwanese vital rates approach Japanese levels after 15 and 25 years respectively, show rapidly declining crude birth rates until about 1975. Following this decline birth rates would remain constant for the next 15 years, again because of the large numbers of Taiwanese born just after World War Two will be in the peak reproductive ages during this period. This effect is so strong, that if Japanese vital rates are reached in 1978 the crude birth rate will still show a rise between 1978-83 and 1983-1988. Following this period of relatively high fertility birth rates would fall towards their final level of about 14 per thousand when the smaller groups of people born during the 1960's and later reach adulthood.

For the next 20 years all three projections show very low crude death rates, the result of a very young population. If Japanese fertility rates are achieved, after 1988 there would be a rise in the crude death rate as Taiwan's population became older (as indicated in Table II). Eventually the crude

death rate would rise to a permanent rate of 15 per thousand, almost three times the current rate. This rise would be purely due to changes in the age structure, leading to an older population.

The effect of this rising death rate would accentuate the falling fertility rates in decreasing the rate of growth of Taiwan's population and eventually stopping that growth. It should be noted, however, that during the next 20 years the low death rates and age structure favorable to fertility will mean that Taiwan's population will continue to grow at least 1.3% per year even if fertility falls to Japanese levels almost immediately.

The phenomena we have described for Taiwan are not unique to it. The path to an essentially stationary zero-growth rate theoretically is similar in its broad course for any country in which net reproduction rates have been significantly higher than replacement levels. How rapidly the transition occurs depends on the existing age-structure, which in turn depends on prior fertility levels. Where fertility levels have been relatively high the age-structure is relatively young, as in Taiwan. The younger the age structure the longer the transition takes. Also, as in Taiwan, age-structure distortions, such as that caused by the post-war "baby-booms", affect the particular course of transition. The application of the main ideas on which the essay is based have become best known by their detailed exposition for the United States in the important article by T. Frejka.[11] He demonstrates that even the instantaneous attainment of a replacement net reproduction rate of 1 for the United States in 1965 would have produced a stationary population of about 290 millions after 70 years.

The population-policy implications for Taiwan of the projections we have made depend, on the goals desired. Short of an undesired catastrophe on the mortality side, a continuing and substantial population growth appears inevitable, even with the assumption of improbably rapid fertility declines. Therefore, those who want more population growth are likely to get it. Most informed observers would probably agree that Taiwan's social and economic welfare would be enhanced by an early sharp reduction or complete cessation of its population growth. The current trends and programs are not likely to produce these results, despite the relatively successful family planning program and the very rapid rate of economic and social development. This suggests early consideration of an expanded and more effective family planning program as well as consideration of population policies going"beyond family planning."[2/]

Table 1. Projected Populations for Taiwan, Assuming Its Vital Rates[a/] Converge to Japanese Levels at Various Future Dates.

Year Taiwan assumes recent Japanese vital rates	Projected Taiwan population (in millions)			Maximum population	
	1988	2008	2028	Amount	Year
1968	17.5	20.4	21.8	21.8	2028
1973	17.9	21.2	22.7	22.7	2033
1978	18.4	22.0	23.7	23.8	2033
1988	19.6	23.8	26.1	26.4	2038
1998	20.3	25.4	28.8	29.4	2048
2008	20.8	27.1	31.3	32.9	2058
2018	21.2	28.4	33.8	36.7	2068
Standard for comparison:					
Taiwan's vital rates stay constant at 1968 level:	23.0	37.4	60.8	Growth continues but population in 2168 is 1,728,000,000	

a/ These results come from averaging the vital rates for males and females. Appendix A explains these technical points. Alternate tables based only on female or male rates are available. They give somewhat different results, but the broad trends for the long-run are similar.

Table 2. Projected Age Distributions and Sex-ratios by Age For Taiwan on Assumption that Taiwan's Vital Rates Converge to Those of Japan Whose Net Reproduction Rate is About 1, By the Year Indicated.

Convergence to Japanese rates by 1978

	% age distribution for					Sex ratio for			
Ages	1968	1988	2008	2028	Final	1968	1988	2008	Final
0-9	28.7	17.5	14.1	14.0	13.5	1.06	1.06	1.06	1.06
10-19	24.9	16.6	16.0	13.4	13.5	1.06	1.06	1.06	1.06
20-29	14.0	21.0	14.4	12.9	13.5	1.05	1.05	1.05	1.05
30-44	17.4	23.0	21.7	21.4	20.0	1.18	1.04	1.04	1.04
45-64	12.4	16.4	25.6	23.6	24.7	1.26	1.09	1.00	1.00
65 +	2.7	5.5	8.2	14.6	14.8	0.79	0.99	0.83	0.76
Total	100%	100%	100%	100%	100.0	1.09	1.06	1.02	.99

Convergence to Japanese rates by 1988

	% age distirbution for					Sex ratio for			
Ages	1968	1988	2008	2028	Final	1968	1988	2008	Final
0-9	28.7	20.1	15.1	13.7	13.5	1.06	1.06	1.06	1.06
10-19	24.9	18.1	15.2	14.1	13.5	1.06	1.06	1.06	1.06
20-29	14.0	19.7	16.2	13.5	13.5	1.05	1.05	1.05	1.05
30-44	17.4	21.6	22.1	20.6	20.0	1.18	1.04	1.05	1.04
45-64	12.4	15.4	23.8	24.8	24.7	1.26	1.09	1.00	1.00
65 +	2.7	5.1	7.6	13.3	14.8	0.79	0.98	0.83	0.76
Total	100%	100%	100%	100%	100.0	1.09	1.06	1.02	.99

Table 3. Comparison of Projected Average Vital Rates for Taiwan Under Varying Assumptions.

Time Period Mid-year	Constant 1968 Rates	Japanese Rates in 1988	Japanese Rates in 1978
	Crude Birth Rate		
1968-1973	29.3	25.1	22.7
1973-1978	31.3	23.6	19.8
1978-1983	33.5	23.2	17.8
1983-1988	33.5	21.7	20.1
2003-2008	31.0	16.0	14.4
2023-2028	30.6	14.0	14.3
Stable:			
2163-2168	30.9	13.9	13.9
	Crude Death Rate		
1968-1973	5.4	5.2	5.7
1973-1978	5.8	5.4	5.3
1978-1983	6.1	5.8	5.4
1983-1988	6.4	6.2	6.3
2003-2008	6.7	8.2	8.7
2023-2028	7.1	11.7	12.5
Stable:			
2163-2168	7.1	14.8	14.8
	Natural Increase		
1968-1973	23.9	19.9	17.0
1973-1978	25.5	18.2	14.5
1978-1983	27.4	17.4	12.4
1983-1988	27.1	15.5	13.8
2003-2008	24.3	7.8	5.7
2023-2028	23.5	2.3	1.8
Stable:			
2163-2168	23.8	-.9	-.9

APPENDIX A

Projections of Taiwanese population based on confluence of Taiwanese vital rates to Japanese vital rates in varying times.

These projections have been made assuming that the 1968 vital rates of Taiwan would approach the Japanese vital rates of 1963, and remain constant thereafter. The 1963 Japanese rates reflect a population that will neither gain nor lose population very rapidly after stable conditions have been achieved, in other words, after sufficient time has past for the effects of earlier trends in vital rates to be forgotten by the age structure. No migration is assumed in these models.

In order to reach Japanese rates a different but constant percentage decline every five years was assumed in each age specific rate, so that Japanese rates would be reached in the year specified. Age specific fertility rates and the probability of dying in the next five years were the vital rates changed. For comparison a constant trends projection was made assuming 1968 vital rates for Taiwan remain constant.

Unfortunately the 1968 population figures for Taiwan were not available at the time these projections were made, therefore some of the vital rates and population figures for Taiwan in 1968 may not exactly agree with official data. However, the differences are small and should not affect the results significantly.

Most projections are based on female fertility rates, that is the number of women in the various childbearing age groups are used to estimate the total number of expected births. It is equally feasible to do projections in which births are calculated from the number of males in the relevant ages of fatherhood. This distinction is important for Taiwan because the migration of mainlanders has meant that there are considerably

more men than women in many of the relevant ages of parenthood. This means that fertility rates for women in Taiwan are relatively higher than those for men, because both have the same number of births in the numerator, but women have smaller numbers im the denominator. Japan has the reverse situation, war losses mean that there are relatively fewer men than women in the childbearing ages, meaning that fertility rates based on women are relatively lower than those based on men.

In view of the above three series' of projections for Taiwan were made, all three have the same mortality assumptions, but they differ in which sex's age structure and fertility rates that are used. There is one series of projections using the numbers of women and female age specific fertility, a second using numbers of males and birth rates by age of father, and a third series in which one half of each rate was used to calculate births: that is one half of the births that would be projected on the male model were added to one half of the births projected under the female model.

The differences in the three series' can be seen in the table below:

Type of projection	Population of Taiwan in millions in year		
Continued 1968 Taiwanese vital rates	1978	1988	2008
Female projection	17.8	23.5	34.2
Male projection	17.3	22.5	32.2
Mixed projection	17.5	23.0	33.1
Japanese vital rates reached in 1978			
Female projection	16.1	18.4	21.7
Male projection	16.0	18.3	22.4
Mixed projection	16.1	18.4	22.0

As indicated by the 'continued-1968 vital rates' projection, the differences between these three types of projections can be fairly substantial.

The reason why differences between the three types of projections in the 'Japanese vital rates reached in 1978' series are not greater is because of the mixing of the rates. Taiwanese vital rates imply higher rates of growth for female projections, while Japanese vital rates imply the reverse, the result of mixing these is that all three types of projections produce the same results in the short term. If these projections were made far enough into the future however substantial differences would be found.

For purposes of comparison and to eliminate as much as possible the effects of sex differentials in fertility, the mixed projections, which are approximately the average of the other two projections, were used in the detailed analysis.

Footnotes

1/ T. Frejka, "Reflections on the Demographic Conditions needed to Establish a U.S. Stationary Population Growth." Population Studies, Vol. XXII, No.3, Nov. 68, pp. 379-397.

2/ For a discussion of these issues see K. Davis, "Population Policy: Will Current Programs Succees?" Science, 163(3867), Feb. 69: 533-543. (Also in Studies in Family Planning, 38, Feb. 69, pp. 1-16.

PRESENT STATUS OF THE ASIAN VEGETABLE RESEARCH AND DEVELOPMENT CENTER (AVRDC) PROJECT

May 1970

The proposed Asian Vegetable Research and Development Center will be established as a regional project for the following purposes:

1. To conduct research on production and marketing and to assist participating countries in developing their own adaptive research programs.
2. To carry out training on production and marketing and to assist participating countries in developing more efficient training and marketing programs.
3. To develop and provide basic information on improved production techniques and marketing for use in extension services in participating countries.

All the Asian countries that are interested in the AVRDC project have expressed their willingness to participate. The five-year budget of the project amounts to a total of US$7.5 million.

To finance the project, the Republic of China as the host country will contribute 30 per cent (equal to US$2.25 million) and the USAID/Washington, 40 per cent (US$3 million) of the total amount. The governments of Korea and Thailand have recently agreed each to contribute 5 per cent. As the Asian Development Bank considers the AVRDC project worthy of support, it has come up with a generous 10 per cent contribution. These make a total of 90 per cent of the five-year budget.

Instead of making a straight financial commitment, Japan undertakes to make available her expert services and equipment needed for the project. Though not expressed in percentages, it is hoped that the Japanese contribution will not be less than the 5 per cent expected of each participating country.

Two other countries interested in the AVRDC project, the Philippines and the Republic of Vietnam, have also pledged token contributions. The Philippines has promised to contribute US$2,500 for the first year with the understanding that her contributions will increase in amount as soon as circumstances permit. The Republic of Vietnam has voluntarily offered a symbolic contribution of US$2,000 for the first year of the AVRDC operation.

President has seen

It is the earnest hope of all parties concerned that the AVRDC will be established as soon as possible. We can afford no further delay.