

1987
Enters market with
3.0-micron and
2.5-micron process
technologies

1999
First foundry to offer
0.18-micron
copper technology

2002
Establishes "TSMC Academy"

2005
Leads industry in
successfully producing
65nm chips

2008
Launches
"Open Innovation Platform[®]"

2011
Becomes first in the
industry to begin mass
production with **28nm**
process technology

4. Capital and Shares

4.1 Capital and Shares

4.1.1 Capitalization

Unit: Share/NT\$

As of 02/28/2022

Face Value Per Share	Authorized Share Capital		Capital Stock		Remark
	Shares	Amount	Shares	Amount	
10	28,050,000,000	280,500,000,000	25,930,380,458	259,303,804,580	<ul style="list-style-type: none"> No change in Authorized Share Capital and Capital Stock in 2021 and as of 02/28/2022 The Board of Directors approved the issuance of 1,387,000 common shares for 2021 Employee Restricted Stock Awards and set 03/01/2022 as the record date. In order to offset dilution from the increase of outstanding shares due to the above-mentioned issuance, the Board approved a share buyback program for TSMC to buy back its common shares on the Taiwan Stock Exchange. The shares purchased will be cancelled subsequently. TSMC has completed 1,387,000 shares buyback as of 02/25/2022.

4.1.2 Capital and Shares

Unit: Share

As of 02/28/2022

Type of Stock	Authorized Share Capital		Total
	Listed Shares	Unissued Shares	
Common Stock	25,930,380,458	2,119,619,542	28,050,000,000

Shelf Registration in Taiwan: None.

4.1.3 Composition of Shareholders

Common Share

As of 12/22/2021 (Note)

Type of Shareholders	Government Agencies	Financial Institutions	Other Juridical Persons	Foreign Institutions and Natural Persons	Domestic Natural Persons	Total
Number of Shareholders	5	177	2,754	6,497	932,070	941,503
Shareholding	1,654,461,912	864,616,879	1,296,133,555	19,418,701,332	2,696,466,780	25,930,380,458
Shareholding Percentage	6.38%	3.33%	5.00%	74.89%	10.40%	100.00%

Note: Record date for the second quarter of 2021 cash dividend distribution.

Distribution of Shareholding

Common Share

As of 12/22/2021 (Note)

Shareholding Range	Number of Shareholders	Shareholding	Shareholding Percentage
1-999	545,615	87,082,214	0.34%
1,000-5,000	317,689	601,885,248	2.32%
5,001-10,000	38,116	277,683,465	1.07%
10,001-15,000	13,224	163,170,054	0.63%
15,001-20,000	6,421	113,788,204	0.44%
20,001-30,000	6,265	153,622,977	0.59%
30,001-40,000	3,008	104,776,935	0.40%
40,001-50,000	1,829	82,437,788	0.32%
50,001-100,000	3,596	252,032,354	0.97%
100,001-200,000	1,892	263,134,854	1.02%
200,001-400,000	1,272	356,135,934	1.37%
400,001-600,000	531	258,004,260	1.00%
600,001-800,000	317	219,548,288	0.85%
800,001-1,000,000	200	180,201,938	0.69%
Over 1,000,001	1,528	22,816,875,945	87.99%
Total	941,503	25,930,380,458	100.00%

Note: Record date for the second quarter of 2021 cash dividend distribution.

Preferred Share: None.

4.1.4 Major Shareholders

Common Share

As of 12/22/2021 (Note)

Shareholders	Shareholding	Shareholding Percentage
ADR-Taiwan Semiconductor Manufacturing Company, Ltd.	5,321,425,968	20.52%
National Development Fund, Executive Yuan	1,653,709,980	6.38%
Citibank (Taiwan) Ltd. in custody for Government of Singapore	649,496,949	2.50%
Citibank (Taiwan) Ltd. in custody for Norges Bank	362,567,229	1.40%
JPMorgan Chase Bank N.A., Taipei Branch in custody for Vanguard Total International Stock Index Fund, a series of Vanguard Star Funds	313,909,748	1.21%
New Labor Pension Fund	279,407,855	1.08%
JPMorgan Chase Bank N.A., Taipei Branch in custody for Vanguard Emerging Markets Stock Index Fund, a series of Vanguard International Equity Index Funds	258,633,285	1.00%
Fubon Life Insurance Co., Ltd	233,718,221	0.90%
JPMorgan Chase Bank N.A., Taipei Branch in custody for EuroPacific Growth Fund	211,505,649	0.82%
iShares Core MSCI Emerging Markets ETF	209,297,000	0.81%

Note: Record date for the second quarter of 2021 cash dividend distribution.

4.1.5 Net Change in Shareholding by Directors, Management and Shareholders with 10% Shareholdings or More

Unit: Share

Title Name	2021		01/01/2022 - 02/28/2022	
	Net Change in Shareholding	Net Change in Shares Pledged	Net Change in Shareholding	Net Change in Shares Pledged
Chairman Mark Liu	-	-	-	-
Chief Executive Officer & Vice Chairman C.C. Wei	(1,300,000)	-	-	-
Director F.C. Tseng	(5,000,000)	-	-	-
Director National Development Fund, Executive Yuan Representative: Ming-Hsin Kung	-	-	-	-
Independent Director Sir Peter L. Bonfield	-	-	-	-
Independent Director Stan Shih (Note 1)	-	-	-	-
Independent Director Kok-Choo Chen	-	-	-	-
Independent Director Michael R. Splinter	-	-	-	-
Independent Director Moshe N. Gavriellov	-	-	-	-
Independent Director Yancey Hai	-	-	-	-
Independent Director L. Rafael Reif (Note 2)	-	-	-	-
Senior Vice President Lora Ho	-	1,000,000	-	-
Senior Vice President Wei-Jen Lo	-	-	-	-
Senior Vice President Rick Cassidy	-	-	-	-
Senior Vice President Y.P. Chin	-	-	-	-
Senior Vice President Y.J. Mii	-	-	-	-
Senior Vice President J.K. Lin	130,233	-	-	-
Senior Vice President J.K. Wang	20,000	-	-	-
Senior Vice President Cliff Hou	7,936	-	1,566	-
Senior Vice President Kevin Zhang	27,000	-	-	-
Vice President and General Counsel/Corporate Governance Officer Sylvia Fang	-	(50,000)	-	-
Vice President Connie Ma	56,000	-	-	-

(Continued)

Title Name	2021		01/01/2022 - 02/28/2022	
	Net Change in Shareholding	Net Change in Shares Pledged	Net Change in Shareholding	Net Change in Shares Pledged
Vice President Y.L. Wang	-	-	-	-
Vice President and TSMC Distinguished Fellow Doug Yu	25,000	-	-	-
Vice President and TSMC Fellow T.S. Chang	-	-	-	-
Vice President Michael Wu	-	-	-	-
Vice President Min Cao	-	-	-	-
Vice President Marvin Liao	30,000	70,485	-	-
Vice President Y.H. Liaw	-	-	-	-
Vice President Simon Jang	-	-	-	-
Vice President, Chief Financial Officer/Spokesperson Wendell Huang	143	-	16	-
Vice President C.S. Yoo	-	-	-	-
Vice President Jun He	7,000	-	1,000	-
Vice President Geoffrey Yeap	17,000	-	5,000	-
Vice President and Chief Information Officer Chris Horng-Dar Lin	6,000	-	10,000	-
Vice President Jonathan Lee (Note3)	3,663	-	626	-
Vice President Arthur Chuang (Note 4)	-	-	-	-
Vice President and TSMC Fellow L.C. Lu (Note 4)	15,000	-	5,000	-
Vice President K.C. Hsu (Note 5)	-	-	16,000	-

Note 1: Mr. Stan Shih's tenure expired on July 26, 2021. His shareholding is no longer required to disclose.

Note 2: Dr. L. Rafael Reif was elected as TSMC's independent director at TSMC's Annual Shareholders' Meeting on July 26, 2021. His shareholding was disclosed starting from that date.

Note 3: Mr. Jonathan Lee was promoted to Vice President, effective June 9, 2021. His shareholdings were disclosed starting from that date.

Note 4: Dr. Arthur Chuang and Dr. L.C. Lu were promoted to Vice President, effective August 10, 2021. Their shareholdings were disclosed starting from that date.

Note 5: Mr. K.C. Hsu was promoted to Vice President, effective November 9, 2021. His shareholdings were disclosed starting from that date.

4.1.6 Stock Trade with Related Party

Name	Reason of the Transfer	Transfer Date	Transferee	Relation with the Transferee	Shares	Transfer Price
C.C. Wei	Gifting	10/06/2021	Wei, Niou Ching-Rong	Spouse	1,000,000	-
F.C. Tseng	Gifting	12/10/2021	Tseng, Chen Hang	Spouse	5,000,000	-

4.1.7 Stock Pledge with Related Party: None.

4.1.8 Related Party Relationship among TSMC's 10 Largest Shareholders

Common Share As of 12/22/2021 (Note)

Name	Shares Held		Shares Held by Spouse & Minors		Shares Held in the Name of Others		Name and Relationship between TSMC's Shareholders	
	Shares	%	Shares	%	Shares	%	Name	Relationship
ADR-Taiwan Semiconductor Manufacturing Company, Ltd.	5,321,425,968	20.52%	N/A	N/A	N/A	N/A	None	None
National Development Fund, Executive Yuan Representative: Ming-Hsin Kung	1,653,709,980 779	6.38% 0.00%	N/A -	N/A -	N/A -	N/A -	None	None
Citibank (Taiwan) Ltd. in custody for Government of Singapore	649,496,949	2.50%	N/A	N/A	N/A	N/A	None	None
Citibank (Taiwan) Ltd. in custody for Norges Bank	362,567,229	1.40%	N/A	N/A	N/A	N/A	None	None
JPMorgan Chase Bank N.A., Taipei Branch in custody for Vanguard Total International Stock Index Fund, a series of Vanguard Star Funds	313,909,748	1.21%	N/A	N/A	N/A	N/A	None	None
New Labor Pension Fund	279,407,855	1.08%	N/A	N/A	N/A	N/A	None	None
JPMorgan Chase Bank N.A., Taipei Branch in custody for Vanguard Emerging Markets Stock Index Fund, a series of Vanguard International Equity Index Funds	258,633,285	1.00%	N/A	N/A	N/A	N/A	None	None
Fubon Life Insurance Co., Ltd Chairman: Richard M. Tsai	233,718,221	0.90%	N/A	N/A	N/A	N/A	None	None
JPMorgan Chase Bank N.A. Taipei Branch in custody for EuroPacific Growth Fund	211,505,649	0.82%	N/A	N/A	N/A	N/A	None	None
iShares Core MSCI Emerging Markets ETF	209,297,000	0.81%	N/A	N/A	N/A	N/A	None	None

Note: Record date for the second quarter of 2021 cash dividend distribution.

4.1.9 Long-term Investment Ownership

As of 12/31/2021

Long-term Investment	Ownership by TSMC (1)		Ownership by Directors, Managers and Directly/Indirectly Owned Subsidiaries (2)		Total Ownership (1) + (2)	
	Shares	%	Shares	%	Shares	%
Equity Method:						
TSMC Partners, Ltd.	988,268,244	100%	-	-	988,268,244	100%
TSMC Global Ltd.	11,384	100%	-	-	11,384	100%
TSMC North America	11,000,000	100%	-	-	11,000,000	100%
TSMC Europe B.V.	200	100%	-	-	200	100%
TSMC Japan Limited	6,000	100%	-	-	6,000	100%
TSMC Korea Limited	80,000	100%	-	-	80,000	100%
TSMC Design Technology Japan, Inc.	15,000	100%	-	-	15,000	100%
TSMC Japan 3DIC R&D Center, Inc.	11,100	100%	-	-	11,100	100%
TSMC China Company Limited	Not Applicable (Note 1)	100%	Not Applicable (Note 1)	-	Not Applicable (Note 1)	100%
TSMC Nanjing Company Limited	Not Applicable (Note 1)	100%	Not Applicable (Note 1)	-	Not Applicable (Note 1)	100%
TSMC Arizona Corporation	770,001	100%	-	-	770,001	100%
Japan Advanced Semiconductor Manufacturing, Inc.	57,575 (Note 2)	100% (Note 2)	-	-	57,575 (Note 2)	100% (Note 2)
VisEra Technologies Company Ltd.	213,619,000	72.83%	-	-	213,619,000	72.83%
Systems on Silicon Manufacturing Co. Pte. Ltd.	313,603	38.79%	-	-	313,603	38.79%
Vanguard International Semiconductor Corp.	464,223,493	28.32%	275,614,145	16.82% (Note 3)	739,837,638	45.14%
Xintec Inc.	111,281,925	41.01%	-	-	111,281,925	41.01%
Global UniChip Corporation	46,687,859	34.84%	-	-	46,687,859	34.84%
VentureTech Alliance Fund II, L.P.	Not Applicable (Note 1)	98.00%	Not Applicable (Note 1)	-	Not Applicable (Note 1)	98.00%
VentureTech Alliance Fund III, L.P.	Not Applicable (Note 1)	98.00%	Not Applicable (Note 1)	-	Not Applicable (Note 1)	98.00%
Emerging Fund L.P.	Not Applicable (Note 1)	99.90%	Not Applicable (Note 1)	-	Not Applicable (Note 1)	99.90%

Note 1: Not applicable. These firms do not issue shares. TSMC's investments are measured as a percentage of ownership.

Note 2: Japan Advanced Semiconductor Manufacturing, Inc. increased its capital in January 2022. After the capital increase, shares owned by TSMC increased to 807,651 shares while TSMC's ownership decreased to 81.01% with Sony Semiconductor Solutions Corporation participating as a minority shareholder.

Note 3: TSMC's director, National Development Fund of Executive Yuan, held 16.72% while other directors and management held 0.10%.

4.1.10 Share Information

TSMC's earnings per share in 2021 increased 15.2% from 2020 to NT\$23.01 per share. The following table details TSMC's market price, net worth, earnings, and dividends per common share, as well as other data regarding return on investment.

Market Price, Net Worth, Earnings, and Dividends Per Common Share

Unit: NT\$, except for weighted average shares and return on investment ratios

Item	2020	2021	01/01/2022 - 02/28/2022
Market Price Per Share (Note 1)			
Highest Market Price	530.00	673.00	683.00
Lowest Market Price	248.00	536.00	604.00
Average Market Price	378.65	597.73	642.67
Net Worth Per Share			
Before Distribution	71.33	83.62	-
After Distribution	68.83	80.87 (Note 5)	-
Earnings Per Share			
Weighted Average Shares (thousand shares)	25,930,380	25,930,380	-
Diluted Earnings Per Share	19.97	23.01	-
Dividends Per Share			
Cash Dividends	10.00	11 (Note 5)	-
Accumulated Undistributed Dividend	-	-	-
Return on Investment			
Price/Earnings Ratio (Note 2)	18.96	25.98	-
Price/Dividend Ratio (Note 3)	37.86	54.34 (Note 5)	-
Cash Dividend Yield (Note 4)	2.6%	1.8% (Note 5)	-

Note 1: Referred to TWSE website

Note 2: Price/Earnings Ratio = Average Market Price/ Diluted Earnings Per Share

Note 3: Price/Dividend Ratio = Average Market Price/Cash Dividends Per Share

Note 4: Cash Dividend Yield = Cash Dividends Per Share/Average Market Price

Note 5: Including the dividends amount for fourth quarter of 2021, which were approved by Board of Directors on February 15, 2022.

4.1.11 Dividend Policy and Distribution of Earnings

Except as otherwise specified in the Articles of Incorporation or under the R.O.C. law, TSMC will not pay dividends or make other distributions to shareholders when there are no earnings. The Company's profits may be distributed by way of cash dividend, stock dividend, or a combination of cash and stock. Pursuant to the Company's Articles of Incorporation, distributions of profits shall be made preferably by way of cash dividend. In addition, the ratio for stock dividends shall not exceed 50% of the total distribution. Distribution of stock dividends is subject to approval by the R.O.C. Financial Supervisory Commission.

Pursuant to TSMC's Articles of Incorporation, the Company's Board of Directors is authorized to approve quarterly cash dividends after the close of each quarter. After the Company's Board of Directors approves quarterly cash dividends, TSMC will distribute the dividend within six months. The respective amounts and payment dates of 2021 quarterly cash dividends are demonstrated in the table below. TSMC intends to maintain a sustainable cash dividend on both an annual and quarterly basis.

2021 Quarterly Earnings Distribution

Unit: NT\$

Period	Approved Date	Payment Date	Cash Dividends Per Share	Total Earnings Distribution Amount
First quarter of 2021	06/09/2021	10/14/2021	NT\$2.75	71,308,546,260
Second quarter of 2021	08/10/2021	01/13/2022	NT\$2.75	71,308,546,260
Third quarter of 2021	11/09/2021	04/14/2022	NT\$2.75	71,308,546,260
Fourth quarter of 2021	02/15/2022	07/14/2022	NT\$2.75	71,308,546,260

4.1.12 Compensation to Directors and Profit Sharing to Employees

Based on TSMC's Articles of Incorporation, before paying dividends or bonuses to shareholders, TSMC shall set aside not more than 0.3% of its annual profit to directors as compensation and not less than 1% to employees as a profit sharing.

As resolved by TSMC's Board of Directors on February 15, 2022, a profit sharing to employees was expensed based on a certain percentage of 2021 profit; compensation to directors was expensed based on the estimated amount of payment. If the actual amounts subsequently paid differ from the above estimated amounts, the differences will be recorded in the year paid as a change in accounting estimate.

2021 Directors' Compensation and Employees' Profit Sharing

	Board Resolution (02/15/2022)	
	Amount (NT\$ thousands)	
Directors' Compensation (Cash)	487,537	
Employee's Profit Sharing (Cash)	35,601,449	

Note: NT\$ 35,601,449 thousand business performance bonus was already distributed following each quarter of 2021. The above employees' profit sharing will be distributed in July, 2022.

2020 Directors' Compensation and Employees' Profit Sharing

	Board Resolution (02/09/2021)	Actual Result (Note)
	Amount (NT\$ thousands)	Amount (NT\$ thousands)
Directors' Compensation (Cash)	509,753	509,753
Employees' Profit Sharing (Cash)	34,753,184	34,606,262

Note: The above directors' compensation and employees' profit sharing were expensed under the Company's 2020 statement of comprehensive income and were approved by the Board of Directors at its meeting on February 9, 2021. However, due to employee turnover, the employees' profit sharing in the amount of NT\$146,922 thousand was undistributed, and related expense was reversed in 2021.

4.1.13 Impact to 2022 Business Performance and EPS of Stock Dividend Distribution: Not applicable.

4.1.14 Buyback of Common Stock

TSMC's Board of Directors approved the issuance of 1,387,000 shares for 2021 employee restricted stock awards (RSAs) at its meeting on February 15, 2022. In order to offset dilution from the increase of outstanding shares due to the above-mentioned issuance, the Board of Directors approved a share buyback program for TSMC to buy back its common shares on the Taiwan Stock Exchange. The shares purchased will be cancelled subsequently. The implementation of the share buyback program was as follows.

(1) Completed Share Buyback Program

As of 02/28/2022

	5 th Buyback Program
Purpose of the Share Buyback	For the shareholders' interests
Scheduled Buyback Period	02/16/2022 - 04/15/2022
Scheduled Buyback Price Range	NT\$444 to NT\$960 per share, while the buyback will still be carried out if the stock price falls below the aforementioned range
Type and Number of Shares Bought Back	Common shares: 1,387,000 shares
Total Monetary Amount of Shares Bought Back	NT\$871,566,000
Number of Shares Bought Back as a Percentage of the Approved Number of Shares to be Bought Back (%)	100%
Number of Shares Cancelled and/or Transferred	0 share
Cumulative Number of the Company's Treasury Shares Held	1,387,000 shares
Cumulative Number of the Company's Treasury Shares as a Percentage of the Total Number of the Company's Issued Shares (%)	0.01%

(2) Uncompleted Share Buyback Program: None.

4.2 Issuance of Corporate Bonds

4.2.1 Corporate Bonds

NTD Corporate Bonds

As of 02/28/2022

Issuance	Domestic Unsecured Bond (101-3)	Domestic Unsecured Bond (101-4)	Domestic Unsecured Bond (102-1)	Domestic Unsecured Bond (102-2)	Domestic Unsecured Bond (102-4)	Domestic Unsecured Bond (109-1)	Domestic Unsecured Bond (109-2)	Domestic Unsecured Bond (109-3)	Domestic Unsecured Bond (109-4)	Domestic Unsecured Bond (109-5)
Issue Date	10/09/2012	01/04/2013	02/06/2013	07/16/2013	09/25/2013	03/23/2020	04/15/2020	05/29/2020	07/14/2020	09/03/2020
Denomination	NT\$10,000,000									
Offering Price	Par									
Total Amount	NT\$4,400,000,000	NT\$23,600,000,000	NT\$21,400,000,000	NT\$13,700,000,000	NT\$15,000,000,000	NT\$24,000,000,000	NT\$21,600,000,000	NT\$14,400,000,000	NT\$13,900,000,000	NT\$15,600,000,000
Coupon (Per Annum)	1.53%	Tranche A: 1.23% Tranche B: 1.35% Tranche C: 1.49%	Tranche A: 1.23% Tranche B: 1.38% Tranche C: 1.50%	Tranche A: 1.50% Tranche B: 1.70%	Tranche A: 1.35% Tranche B: 1.45% Tranche C: 1.60% Tranche D: 1.85% Tranche E: 2.05% Tranche F: 2.10%	Tranche A: 0.58% Tranche B: 0.62% Tranche C: 0.64%	Tranche A: 0.52% Tranche B: 0.58% Tranche C: 0.60%	Tranche A: 0.55% Tranche B: 0.60% Tranche C: 0.64%	Tranche A: 0.58% Tranche B: 0.65% Tranche C: 0.67%	Tranche A: 0.50% Tranche B: 0.58% Tranche C: 0.60%
Tenure and Maturity Date	Tenure: 10 years Maturity: 10/09/2022	Tranche A: 5 years Maturity: 01/04/2018 Tranche B: 7 years Maturity: 01/04/2020 Tranche C: 10 years Maturity: 01/04/2023	Tranche A: 5 years Maturity: 02/06/2018 Tranche B: 7 years Maturity: 02/06/2020 Tranche C: 10 years Maturity: 02/06/2023	Tranche A: 7 years Maturity: 07/16/2020 Tranche B: 10 years Maturity: 07/16/2023	Tranche A: 3 years Maturity: 09/25/2016 Tranche B: 4 years Maturity: 09/25/2017 Tranche C: 5.5 years Maturity: 03/25/2019 Tranche D: 7.5 years Maturity: 03/25/2021 Tranche E: 9.5 years Maturity: 03/25/2023 Tranche F: 10 years Maturity: 09/25/2023	Tranche A: 5 years Maturity: 03/23/2025 Tranche B: 7 years Maturity: 03/23/2027 Tranche C: 10 years Maturity: 03/23/2030	Tranche A: 5 years Maturity: 04/15/2025 Tranche B: 7 years Maturity: 04/15/2027 Tranche C: 10 years Maturity: 04/15/2030	Tranche A: 5 years Maturity: 05/29/2025 Tranche B: 7 years Maturity: 05/29/2027 Tranche C: 10 years Maturity: 05/29/2030	Tranche A: 5 years Maturity: 07/14/2025 Tranche B: 7 years Maturity: 07/14/2027 Tranche C: 10 years Maturity: 07/14/2030	Tranche A: 5 years Maturity: 09/03/2025 Tranche B: 7 years Maturity: 09/03/2027 Tranche C: 10 years Maturity: 09/03/2030
Repayment	Bullet								Two equal installments in last two years	
Outstanding	NT\$4,400,000,000	NT\$3,000,000,000	NT\$3,600,000,000	NT\$3,500,000,000	NT\$8,000,000,000	NT\$24,000,000,000	NT\$21,600,000,000	NT\$14,400,000,000	NT\$13,900,000,000	NT\$15,600,000,000
Credit Rating	twAAA (Taiwan Ratings Corporation, 09/04/2012)	twAAA (Taiwan Ratings Corporation, 11/29/2012)	twAAA (Taiwan Ratings Corporation, 12/18/2012)	twAAA (Taiwan Ratings Corporation, 05/16/2013)	twAAA (Taiwan Ratings Corporation, 08/06/2013)	Not Applicable				
Underwriter (Lead Underwriter)	Not Applicable					Yuanta Securities Co., Ltd.	MasterLink Securities Co., Ltd.	Hua Nan Securities Co., Ltd.	Capital Securities Co., Ltd.	KGI Securities Co., Ltd.
Trustee	Taipei Fubon Commercial Bank Co., Ltd.									
Guarantor	None									
Legal Counsel	Modern Law Office					True Honesty International Law Offices				
Auditor	Deloitte & Touche					Deloitte & Touche				
Redemption or Early Repayment Clause	None									
Covenants	None									
Other Rights of Bondholders	Conversion Right	None								
	Amount of Converted or Exchanged Common Shares, ADRs or Other Securities	Not Applicable								
Dilution Effect and Other Adverse Effects on Existing Shareholders	None									
Custodian	None									

(Continued)

Issuance	Domestic Unsecured Bond (109-6, Green Bond)	Domestic Unsecured Bond (109-7)	Domestic Unsecured Bond (110-1)	Domestic Unsecured Bond (110-2)	Domestic Unsecured Bond (110-3)	Domestic Unsecured Bond (110-4)	Domestic Unsecured Bond (110-6)	Domestic Unsecured Bond (110-7)	Domestic Unsecured Bond (111-1, Green Bond)
Issue Date	12/02/2020	12/29/2020	03/30/2021	05/03/2021	06/25/2021	08/19/2021	10/05/2021	12/09/2021	01/12/2022
Denomination	NT\$10,000,000								
Offering Price	Par								
Total Amount	NT\$12,000,000,000	NT\$18,500,000,000	NT\$21,100,000,000	NT\$19,200,000,000	NT\$19,700,000,000	NT\$21,600,000,000	NT\$16,300,000,000	NT\$16,700,000,000	NT\$5,400,000,000
Coupon (Per Annum)	Tranche A: 0.40% Tranche B: 0.44% Tranche C: 0.48%	Tranche A: 0.36% Tranche B: 0.41% Tranche C: 0.45%	Tranche A: 0.50% Tranche B: 0.55% Tranche C: 0.60%	Tranche A: 0.50% Tranche B: 0.58% Tranche C: 0.65%	Tranche A: 0.52% Tranche B: 0.58% Tranche C: 0.65%	Tranche A: 0.485% Tranche B: 0.50% Tranche C: 0.55% Tranche D: 0.62%	Tranche A: 0.535% Tranche B: 0.54% Tranche C: 0.60% Tranche D: 0.62%	Tranche A: 0.65% Tranche B: 0.675% Tranche C: 0.72%	Tranche A: 0.63% Tranche B: 0.72%
Tenure and Maturity Date	Tranche A: 5 years Maturity: 12/02/2025 Tranche B: 7 years Maturity: 12/02/2027 Tranche C: 10 years Maturity: 12/02/2030	Tranche A: 5 years Maturity: 12/29/2025 Tranche B: 7 years Maturity: 12/29/2027 Tranche C: 10 years Maturity: 12/29/2030	Tranche A: 5 years Maturity: 03/30/2026 Tranche B: 7 years Maturity: 03/30/2028 Tranche C: 10 years Maturity: 03/30/2031	Tranche A: 5 years Maturity: 05/03/2026 Tranche B: 7 years Maturity: 05/03/2028 Tranche C: 10 years Maturity: 05/03/2031	Tranche A: 5 years Maturity: 06/25/2026 Tranche B: 7 years Maturity: 06/25/2028 Tranche C: 10 years Maturity: 06/25/2031	Tranche A: 4 years Maturity: 08/19/2025 Tranche B: 5 years Maturity: 08/19/2026 Tranche C: 7 years Maturity: 08/19/2028 Tranche D: 10 years Maturity: 08/19/2031	Tranche A: 4.5 years Maturity: 04/05/2026 Tranche B: 5 years Maturity: 10/05/2026 Tranche C: 7 years Maturity: 10/05/2028 Tranche D: 10 years Maturity: 10/05/2031	Tranche A: 5 years Maturity: 12/09/2026 Tranche B: 5.5 years Maturity: 06/09/2027 Tranche C: 7 years Maturity: 12/09/2028	Tranche A: 5 years Maturity: 01/12/2027 Tranche B: 7 years Maturity: 01/12/2029
Repayment	Two equal installments in last two years		Bullet						
Outstanding	NT\$12,000,000,000	NT\$18,500,000,000	NT\$21,100,000,000	NT\$19,200,000,000	NT\$19,700,000,000	NT\$21,600,000,000	NT\$16,300,000,000	NT\$16,700,000,000	NT\$5,400,000,000
Credit Rating	Not Applicable								
Underwriter (Lead Underwriter)	Capital Securities Co., Ltd.	KGI Securities Co., Ltd.	Capital Securities Co., Ltd.	SinoPac Securities Co., Ltd.	Yuanta Securities Co., Ltd.	KGI Securities Co., Ltd.	Capital Securities Co., Ltd.	Capital Securities Co., Ltd.	Yuanta Securities Co., Ltd.
Trustee	Taipei Fubon Commercial Bank Co., Ltd.								
Guarantor	None								
Legal Counsel	True Honesty International Law Offices								
Auditor	Deloitte & Touche								
Redemption or Early Repayment Clause	None								
Covenants	None								
Other Rights of Bondholders	Conversion Right	None							
	Amount of Converted or Exchanged Common Shares, ADRs or Other Securities	Not Applicable							
Dilution Effect and Other Adverse Effects on Existing Shareholders	None								
Custodian	None								

Onshore USD Corporate Bonds

As of 02/28/2022

Issuance	US-dollar Domestic Unsecured Bond (109-1)	US-dollar Domestic Unsecured Bond (110-5)
Issue Date	09/22/2020	09/23/2021
Denomination	US\$1,000,000	
Listing	Taipei Exchange	
Offering Price	Par	
Total Amount	US\$1,000,000,000	
Coupon (Per Annum)	2.70%	3.10%
Tenure and Maturity Date	40 years Maturity: 09/22/2060	30 years Maturity: 09/23/2051
Repayment	Bullet	
Outstanding	US\$1,000,000,000	
Credit Rating	Not Applicable	
Underwriter	Goldman Sachs (Asia) L.L.C., Taipei Branch KGI Securities Co., Ltd. (lead underwriter)	
Trustee	Mega International Commercial Bank Co., Ltd.	
Guarantor	None	
Legal Counsel	True Honesty International Law Offices	
Auditor	Deloitte & Touche	
Redemption or Early Repayment Clause	Callable on the 5th anniversary of the issue date and every anniversary thereafter	
Covenants	None	
Other Rights of Bondholders	Conversion Right	None
	Amount of Converted or Exchanged Common Shares, ADRs or Other Securities	Not Applicable
Dilution Effect and Other Adverse Effects on Existing Shareholders	None	
Custodian	None	

Offshore USD Corporate Bonds

As of 02/28/2022

Issuance	Senior Unsecured Notes (Note 1)	Senior Unsecured Notes (Note 1)	Senior Unsecured Notes (Note 2)
Issue Date	09/28/2020	04/23/2021	10/25/2021
Denomination	US\$200,000 and integral multiples of US\$1,000 in excess thereof		
Listing	Singapore Exchange		
Offering Price	2025 Notes: 99.907% 2027 Notes: 99.603% 2030 Notes: 99.083%	2026 Notes: 99.759% 2028 Notes: 99.751% 2031 Notes: 99.831%	2026 Notes: 99.976% 2031 Notes: 99.561% 2041 Notes: 98.898% 2051 Notes: 98.658%
Total Amount	US\$3,000,000,000	US\$3,500,000,000	US\$4,500,000,000
Coupon (Per Annum)	2025 Notes: 0.75% 2027 Notes: 1.00% 2030 Notes: 1.375%	2026 Notes: 1.25% 2028 Notes: 1.75% 2031 Notes: 2.25%	2026 Notes: 1.75% 2031 Notes: 2.50% 2041 Notes: 3.125% 2051 Notes: 3.25%
Tenure and Maturity Date	2025 Notes: 5 years Maturity: 09/28/2025 2027 Notes: 7 years Maturity: 09/28/2027 2030 Notes: 10 years Maturity: 09/28/2030	2026 Notes: 5 years Maturity: 04/23/2026 2028 Notes: 7 years Maturity: 04/23/2028 2031 Notes: 10 years Maturity: 04/23/2031	2026 Notes: 5 years Maturity: 10/25/2026 2031 Notes: 10 years Maturity: 10/25/2031 2041 Notes: 20 years Maturity: 10/25/2041 2051 Notes: 30 years Maturity: 10/25/2051
Repayment	Bullet		
Outstanding	US\$3,000,000,000	US\$3,500,000,000	US\$4,500,000,000
Credit Rating	Aa3 (Moody's Investors Service, 09/21/2020) AA- (Standard & Poor's Rating Services, 09/21/2020)	Aa3 (Moody's Investors Service, 04/19/2021) AA- (Standard & Poor's Rating Services, 04/18/2021)	Aa3 (Moody's Investors Service, 10/19/2021) AA- (Standard & Poor's Rating Services, 10/18/2021)
Underwriter	Goldman Sachs International as lead underwriter		Goldman Sachs & Co. LLC as lead underwriter
Trustee	Citicorp International Limited		Citibank, N.A.
Guarantor	TSMC		
Legal Counsel	Sullivan & Cromwell (Hong Kong) LLP Harney Westwood & Riegels Lee and Li, Attorneys-at-Law	Sullivan & Cromwell (Hong Kong) LLP Fennemore Craig, P.C. Lee and Li, Attorneys-at-Law	
Auditor	Deloitte & Touche		
Redemption or Early Repayment Clause	Issuer may, at its option, redeem the Notes, at any time, in whole or in part at the relevant redemption price according to relevant agreements		
Covenants	None		
Other Rights of Bondholders	Conversion Right	None	
	Amount of Converted or Exchanged Common Shares, ADRs or Other Securities	Not Applicable	
Dilution Effect and Other Adverse Effects on Existing Shareholders	None		
Custodian	None		

Note 1: Issued by TSMC Global Ltd., a wholly-owned subsidiary of TSMC, and unconditionally and irrevocably guaranteed by TSMC.

Note 2: Issued by TSMC Arizona Corporation, a wholly-owned subsidiary of TSMC, and unconditionally and irrevocably guaranteed by TSMC.

4.2.2 Convertible Bond: None.

4.2.3 Exchangeable Bond: None.

4.2.4 Shelf Registration in Taiwan: None.

4.2.5 Bond with Warrants: None.

4.3 Preferred Shares

4.3.1 Preferred Shares: None.

4.3.2 Preferred Shares with Warrants: None.

4.4 Issuance of American Depositary Shares

Issue Date	10/08/1997	11/20/1998	01/12/1999 - 01/14/1999	07/15/1999	08/23/1999 - 09/09/1999	02/22/2000 - 03/08/2000	04/17/2000	06/07/2000 - 06/15/2000	05/17/2001 - 06/11/2001	11/27/2001	02/07/2002 - 02/08/2002	11/21/2002 - 12/19/2002	07/14/2003 - 07/21/2003	11/14/2003	08/10/2005 - 09/08/2005	05/23/2007
Total Amount (US\$ million)	595	185	36	296	159	379	225	1,168	539	321	1,002	160	909	1,077	1,402	2,563
Offering Price Per ADS (US\$)	24.78	15.26	17.75	24.516	28.964	57.79	56.16	35.75	20.63	16.03	16.75	8.73	10.40	10.77	8.60	10.68
Units Issued	24,000,000	12,094,000	2,000,000	12,094,000	5,486,000	6,560,000	4,000,000	32,667,800	26,110,000	20,000,000	59,800,000	18,348,000	87,357,200	100,000,000	163,027,500	240,000,000
Common Shares Represented	Each unit of ADS represents five TSMC Common Shares.															
Underlying Securities	TSMC Common Shares from Selling Shareholders							Cash Offering and TSMC Common Shares from Selling Shareholders								
Apportionment of Expenses for Issuance and Maintenance	(Note 3)							(Note 4)		(Note 3)						
Issuance and Listing	NYSE															
Rights and Obligations of ADS Holders	Same as those of Common Share Holders															
Trustee	Not Applicable															
Depository Bank	Citibank, N.A. – New York															
Custodian Bank (Note 1)	Citibank, N.A. – Taipei Branch															
ADSs Outstanding (Note 2)	As of February 28, 2022, total number of outstanding ADSs was 1,064,100,627.															
Terms and Conditions in the Deposit Agreement and Custody Agreement	See Deposit Agreement and Custody Agreement for Details															
Closing Price Per ADS (US\$; source: Bloomberg)	01/01/2021 - 12/31/2021	High	140.05													
		Low	108.12													
		Average	118.84													
	01/01/2022 - 02/28/2022	High	140.66													
		Low	107.01													
		Average	123.81													

Note 1: Citibank, N.A., Taipei Branch changed its name to "Citibank Taiwan Limited" in 2009.

Note 2: TSMC has in aggregate issued 813,544,500 ADSs since 1997, which, if taking into consideration stock dividends distributed over the period, would amount to 1,147,835,205 ADSs. Stock dividends distributed in 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008 and 2009 were 45%, 23%, 28%, 40%, 10%, 8%, 14.08668%, 4.99971%, 2.99903%, 0.49991%, 0.50417% and 0.49998%, respectively. As of February 28, 2022, total number of outstanding ADSs was 1,064,100,627 after 83,734,578 were redeemed.

Note 3: All fees and expenses related to issuance of ADSs were paid by the selling shareholders, while maintenance expenses were borne by TSMC.

Note 4: All fees and expenses related to issuance of ADSs were paid proportionately by TSMC and the selling shareholders, while maintenance expenses were borne by TSMC.

4.5 Status of Employee Stock Option Plan

4.5.1 Issuance of Employee Stock Options: None.

4.5.2 Employee Stock Options Granted to Management Team and to Top 10 Employees: None.

4.6 Status of Employee Restricted Stock

4.6.1 Status of Employee Restricted Stock

As of 03/12/2022 (Note)

Type of Employee Restricted Stock	Employee Restricted Stock Awards for Year 2021								
Date of Effective Registration	08/06/2021								
Issue Date	03/01/2022								
Number of Employee Restricted Stock Issued	1,387,000 shares								
Issued Price	None								
Employee Restricted Stock as a Percentage of Shares Issued	0.00535%								
Vesting conditions of Employee Restricted Stock	<p>1. The RSAs granted to an executive can only be vested if (a) the executive remains employed by the Company on the last date of each vesting period; (b) during the vesting period, the executive may not breach any agreement with the Company or violate the Company's work rules; and (c) certain executive performance metrics (a year-end performance rating of at least "S" (Note) or above for the year immediately preceding the expiration of each vesting period) and the Company's business performance metrics are met. (Note: "S" stands for "Successful")</p> <p>2. The maximum percentage of granted RSAs that may be vested each year shall be as follows: one-year anniversary of the grant: 50%; two-year anniversary of the grant: 25%; and three-year anniversary of the grant: 25%; provided that the actual percentage and number of the RSAs to be vested in each year will be calculated based on the achievement of the Company's business performance metrics, as detailed in the following point.</p> <p>3. The maximum number of RSAs that may be vested in each year will be set as 110%, among which 100% will be subject to a calculation based on the Company's relative TSR (Note) achievement (see table below) to determine the number of RSAs to be vested; this number will be further subject to a modifier to increase or decrease up to 10% based on the Compensation Committee's evaluation of the Company's ESG achievements. The number of shares so calculated should be rounded down to the nearest integral.</p> <table border="1"> <thead> <tr> <th>The Company's TSR Relative to the TSR of S&P 500 IT Index</th> <th>Ratio of Shares to Be Vested</th> </tr> </thead> <tbody> <tr> <td>Above the Index by X percentage points</td> <td>50% + X * 2.5%, with the maximum of 100%</td> </tr> <tr> <td>Equal to the Index</td> <td>50%</td> </tr> <tr> <td>Below the Index by X percentage points</td> <td>50% - X * 2.5%, with the minimum of 0%</td> </tr> </tbody> </table> <p>Note: TSR: Total Shareholder Return (including capital gains and dividends)</p>	The Company's TSR Relative to the TSR of S&P 500 IT Index	Ratio of Shares to Be Vested	Above the Index by X percentage points	50% + X * 2.5%, with the maximum of 100%	Equal to the Index	50%	Below the Index by X percentage points	50% - X * 2.5%, with the minimum of 0%
The Company's TSR Relative to the TSR of S&P 500 IT Index	Ratio of Shares to Be Vested								
Above the Index by X percentage points	50% + X * 2.5%, with the maximum of 100%								
Equal to the Index	50%								
Below the Index by X percentage points	50% - X * 2.5%, with the minimum of 0%								
Restricted Rights of Employee Restricted Stock	<p>1. Upon the grant of the RSAs, the RSAs shall be deposited in a trust/custody account. Before the vesting conditions are fulfilled, the executives cannot request the trustee/custodian to return to them the RSAs for any reasons or by any means.</p> <p>2. During each vesting period, no executives granted RSAs may sell, pledge, transfer, give to another person, create any encumbrance on, or otherwise dispose of, any shares under the unvested RSAs.</p> <p>3. Subject to the restrictions mentioned above, the rights of the executives with regard to the unvested RSAs granted under these Rules before the fulfillment of the vesting conditions, including but not limited to the entitlement to any distribution regarding dividends, bonuses and capital reserve, and the subscription right of the new shares issued for any capital increase, are the same as those of holders of common shares of the Company. The relevant matters shall be handled in accordance with the RSA trust/custody agreement.</p> <p>4. Before the vesting conditions are fulfilled, the attendance, proposal rights, speech rights, voting rights and any other shareholder rights shall be exercised by the engaged trustee/custodian on the executives' behalf.</p> <p>5. During each vesting period, if the Company conducts a capital reduction for cash return, capital reduction for loss offset, or other non-statutory capital reduction, the unvested RSAs shall be cancelled proportionally by the ratio of such capital reduction. If the Company conducts a capital reduction for cash return, the returned cash shall be deposited in a trust/custody account and shall not be delivered to the executives until the vesting conditions are fulfilled; otherwise, the cash will be returned to the Company.</p>								
Custody Status of Employee Restricted Stock	<p>1. Upon the grant of the RSAs, the RSAs shall be deposited in a trust/custody account. Before the vesting conditions are fulfilled, the executives cannot request the trustee/custodian to return to them the RSAs for any reasons or by any means.</p> <p>2. During the period when the granted RSAs are deposited in a trust/custody account, each executive must enter into an agreement authorizing the Company to, among others, negotiate, execute, modify, extend, rescind, and terminate the trust/custody agreement with the trustee/custodian, and give instructions to deliver, use, and dispose of any of the properties under the trust/custody, on their behalf, with full power and authority.</p>								

(Continued)

Measures to be Taken Where Employees Fail to Meet the Vesting Conditions	<p>1. The Company will reclaim the granted RSAs and cancel the same at no extra cost to the Company, where an executive fails to meet the vesting conditions.</p> <p>2. Voluntary Separation, separation with a severance, or involuntary discharge: Any unvested RSAs will be forfeited on the effective date of separation due to a voluntary separation, separation with a severance, or involuntary discharge of such executives. The Company will reclaim the RSAs granted to them and cancel the same at no extra cost to the Company.</p> <p>3. Leave Without Pay: All the rights and obligations in connection with the unvested RSAs will not be affected as a result of executives taking extended leave without pay. However, the actual number of shares that may be vested will not only be calculated according to the vesting conditions but also be prorated based on the number of months of their service during the year prior to the applicable vesting day. If such executives are on leave without pay on any vesting day, it shall be deemed that they fail to meet the vesting conditions, and the Company will reclaim the RSAs granted to them and cancel the same at no extra cost to the Company.</p> <p>4. Retirement: All the rights and obligations in connection with the unvested RSAs will not be affected as a result of an employee's retirement. However, the actual number of shares that may be vested shall be calculated according to the vesting condition, and the performance rating granted to them shall be deemed "S".</p> <p>5. Employment Termination Due to Death or Physical Disability Caused by Occupational Accidents: The unvested RSAs shall be deemed immediately vested in the case of death or physical disability due to an occupational accident, where the RSAs vested shall be based on the assumption that the Company's TSR equals to the TSR of S&P 500 IT Index and there is no further adjustment for the Company's ESG achievements. In the case of death, the respective heir(s) may apply for entitlement to those inheritable shares after completing all necessary legal procedures and providing relevant supporting documents. In the case of physical disability caused by occupational injury, the vested RSAs will be received by such executives.</p> <p>6. Position Transfer: Where any executives apply for transferring to any of the Company's subsidiaries, affiliates, or other companies, the measures to be taken with respect to their unvested RSAs will be the same as those specified in "Voluntary Separation". Where any executives are assigned by the Company to a position in any of the Company's subsidiaries, affiliates, or other companies, all the rights and obligations in connection with the unvested RSAs will not be affected as a result. However, subject to the vesting conditions, such executives shall continue working in the assigned subsidiaries, affiliates, or other companies on the vesting dates. Otherwise, they will be considered to fail to meet the vesting conditions, and the Company will reclaim the RSAs granted to them and cancel the same at no extra cost to the Company. With respect to the evaluation of the achievement of individual performance goals, Chairman and Chief Executive Officer will determine whether the vesting conditions are met by reviewing the evaluation of the executives' performance provided by the assigned subsidiaries, affiliates, or other companies.</p> <p>7. Where any executives declare to voluntarily relinquish the granted RSAs with a written statement, the Company will reclaim the RSAs granted to them and cancel the same at no extra cost to the Company.</p> <p>8. Where any executives, after being granted the RSAs, breach any agreement with the Company employment agreement or violate the Company's work rules, the Company will reclaim the RSAs granted to them and cancel the same at no extra cost to the Company.</p> <p>9. Where any executives terminate or revoke their authorization given to the Company regarding the executive's RSA trust/custody account, the Company will reclaim their unvested RSAs and cancel the same at no extra cost to the Company.</p>
Number of Employee Restricted Stock Which Have Been Reclaimed	0 share
Number of Released Employee Restricted Stock	0 share
Number of Unreleased Employee Restricted Stock	1,387,000 shares
Ratio of Unreleased Employee Restricted Stock to Total Issued Shares	0.00535%
Impact on Shareholders' Interest	The potential dilution of the Company's EPS is minimal; therefore, there is no material impact on shareholders' interest.

Note: The printed date of this Annual Report.

4.6.2 Employee Restricted Stock Granted to Management Team and to Top 10 Employees

Unit: Share

As of 03/12/2022 (Note 1)

	Title	Name	No. of Employee Restricted Stock Granted	Employee Restricted Stock as a Percentage of Shared Issued (Note 2)	Restrictions Released			Restrictions Unreleased				
					No. of Shares	Issued Price (NT\$)	Issued Amount (NT\$ thousands)	Released Shares as a Percentage of Shares Issued (Note 2)	No. of Shares	Issued Price (NT\$)	Issued Amount (NT\$ thousands)	Unreleased Shares as a Percentage of Shares Issued (Note 2)
Management Team and Employee	Chief Executive Officer	C.C. Wei	1,387,000	0.00535%	0	0	0	0%	1,387,000	0	0	0.00535%
	Vice President, Chief Financial Officer/Spokesperson	Wendell Huang										
	Senior Vice President	Lora Ho										
	Senior Vice President	Wei-Jen Lo										
	Senior Vice President	Y.P. Chin										
	Senior Vice President	Y.J. Mii										
	Senior Vice President	J.K. Lin										
	Senior Vice President	J.K. Wang										
	Senior Vice President	Cliff Hou										
	Senior Vice President	Kevin Zhang										
	Vice President and General Counsel/ Corporate Governance Officer	Sylvia Fang										
	Vice President	Connie Ma										
	Vice President	Y.L. Wang										
	Vice President and TSMC Distinguished Fellow	Doug Yu										
	Vice President and TSMC Fellow	T.S. Chang										
	Vice President	Michael Wu										
	Vice President	Min Cao										
	Vice President	Marvin Liao										
	Vice President	Y.H. Liaw										
	Vice President	Simon Jang										
	Vice President	C.S. Yoo										
	Vice President	Jun He										
	Vice President	Geoffrey Yeap										
Vice President and Chief Information Officer	Chris Horng-Dar Lin											
Vice President	Jonathan Lee											
Vice President	Arthur Chuang											
Vice President and TSMC Fellow	L.C. Lu											
Vice President	K.C. Hsu											
Employee	Y.C. Huang											

Note 1: The printed date of this Annual Report.

Note 2: The number of shares issued is based on the amended number of total shares approved by Ministry of Economic Affairs on November 23, 2021.

4.7 Status of New Share Issuance in Connection with Mergers and Acquisitions: None.

4.8 Funding Plans and Implementation

The funds raised by TSMC through issuances of domestic corporate bonds are used in accordance with respective funding plans and actual needs. As of the end of the fourth quarter of 2021, the implementation of uncompleted plan was as follows:

Projects	Gross Proceeds	Use of Proceeds	Implementation Status
Unsecured Corporate Bond (109-6, Green Bond)	NT\$12 billion	Green buildings and environmental protection related expenditures	As of the end of the fourth quarter of 2021, the actual completion rate was 75.65% (calculated based on actual payments), as compared to the original plan of 72.75% due to spending earlier than schedule. The funds were used in accordance with the original plans and there was no major difference between the expected benefits and the actual ones.