



Korea Reunification

June 2022





The Korean equity market is “per se” an attractive market – on top of that, this market offers a free option on some form of rapprochement with the North Korea, provided that the portfolio is adequately positioned



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HISTORY: Where does the Korean split come from?

The Country was ruled by the Joseon dynasty from 1392 to 1910.

The Joseon dynasty was a Korean dynastic kingdom that lasted for approximately five centuries. In 1392, General Yi Seong-gye established the Joseon dynasty (1392–1910) after a coup that overthrew the Goryeo dynasty in 1388.

Most of modern Korean culture, etiquette and norms developed during this period.

Figure 1: diplomatic Joseon procession, Hanegawa Toei



The Joseon dynasty installed the neo-Confucianism as the state ideology and saw the height of classical Korean culture, science and literature until the late 16th and early 17th centuries, when it faced foreign invasions (Korea dealt with a pair of Japanese invasions from 1592 to 1598; subsequently, Korea was invaded in 1627 and again in 1636 by the

Manchus). King Sejong the Great (1418–1450) implemented numerous administrative, social, scientific, and economic reforms, established royal authority in the early years of the dynasty, and created Hangul, the Korean alphabet.

After the foreign invasions, Joseon gradually became more and more isolationist and stagnant. By the mid-19th century, with the country unwilling to modernize, and encroachment of European powers, Joseon Korea was forced to sign unequal treaties with foreign powers.

The country was annexed to Japan as a colony in 1910

As a result of the Sino-Japanese War (1894–1895), the 1895 Treaty of Shimonoseki was concluded between China and Japan. It stipulated the abolition of traditional relationships Korea had with China, the latter of which recognized the complete independence of Joseon and repudiated the former's political influence over the area.

Figure 2: war scenes by unknown artist, Seoul museum



In 1897, Joseon was renamed the Korean Empire, and King Gojong became Emperor Gojong. The imperial government aimed to become a strong and independent nation by implementing domestic reforms, strengthening military

forces, developing commerce and industry, and surveying land ownership. Organizations like the Independence Club also rallied to assert the rights of the Joseon people but clashed with the government which proclaimed absolute monarchy and power.

Russian influence was strong in the Empire until being defeated by Japan in the Russo-Japanese War (1904–1905). Korea effectively became a protectorate of Japan on 17 November 1905, the 1905 Protectorate Treaty having been promulgated without Emperor Gojong's required seal or commission.

Following the signing of the treaty, many intellectuals and scholars set up various organizations and associations, embarking on movements for independence. In 1907, Gojong was forced to abdicate after Japan learned that he sent secret envoys to the Second Hague Conventions to protest against the protectorate treaty, leading to the accession of Gojong's son, Emperor Sunjong. In 1909, independence activist An Jung-geun assassinated Itō Hirobumi, former Resident-General of Korea, for Ito's intrusions on the Korean politics. This prompted the Japanese to ban all political organization and proceed with plans for annexation.

However, after being forced to sign the protectorate treaty in 1905, Japan annexed the Korean Empire in 1910.

The Country remained a Japanese colony till the end of the second World War

In 1910 Japan effectively annexed Korea by the Japan–Korea Annexation Treaty. Along with all other prior treaties between Korea and Japan, this was confirmed to be null and void in 1965. While Japan asserts that the treaty was concluded legally, Korea disputes this argument:

the treaty was not signed by the Emperor of Korea as required and it violated international convention on external pressures regarding treaties.

Korea was controlled by Japan under a Governor-General of Korea from 1910 until Japan's unconditional surrender to the Allied Forces on 15 August 1945. De jure sovereignty was deemed to have passed from the Joseon dynasty to the Provisional Government of the Republic of Korea.

After the annexation, Japan set out to repress Korean traditions and culture, and to develop and implement policies primarily for the Japanese benefit. Its officials constructed European-styled transport and communication networks across the nation in order to extract resources and labor. This infrastructure was mostly destroyed later during the Korean War. The banking system was consolidated and the Korean currency abolished. The Japanese removed the Joseon hierarchy, destroyed much of the Gyeongbokgung palace, and replaced it with the government office building.

After Emperor Gojong died in January 1919, with rumors of poisoning, independence rallies against Japanese invaders took place nationwide on 1 March 1919 (the March 1st Movement). This movement was suppressed by force and about 7,000 persons were killed by Japanese soldiers and police. An estimated 2 million people took part in peaceful, pro-liberation rallies, although Japanese records claim participation of less than half million. This movement was partly inspired by United States President Woodrow Wilson's speech of 1919, declaring support for right of self-determination and an end to colonial rule after World War I. No comment was made by Wilson on Korean independence. A pro-Japan faction in the USA sought trade inroads into China through the Korean peninsula.

The Provisional Government of the Republic of Korea was established in Shanghai, China, in the aftermath of the March 1 Movement, which coordinated the Liberation effort and resistance against Japanese control. Some of the achievements of the Provisional Government include the Battle of Chingshanli of 1920 and the ambush of Japanese Military Leadership in China in 1932. The Provisional Government is considered to be the de jure government of the Korean people between 1919 and 1948. Its legitimacy is enshrined in the preamble to the constitution of the Republic of Korea.

Continued anti-Japanese uprisings, such as the nationwide uprising of students in November 1929, led to the Japanese strengthening their military rule in 1931. After the outbreaks of the Sino-Japanese War in 1937 and World War II, Japan attempted to destroy Korea as a nation. The continuance of Korean culture itself began to be illegal. Worship at Japanese Shinto shrines was made compulsory.

The school curriculum was radically modified to eliminate teaching in the Korean language and history. The Korean language was banned, Koreans were forced to adopt Japanese names, and newspapers were prohibited from publishing in Korean. Numerous Korean cultural artifacts were destroyed or taken to Japan. According to an investigation by the South Korean government, 75,311 cultural assets were taken from Korea.

Some Koreans left the Korean peninsula to exile in Manchuria and Primorsky Krai. Koreans in Manchuria formed resistance groups known as Dongnipgun (Liberation Army); they would travel in and out of the Sino-Korean border, fighting guerrilla warfare with Japanese forces. Some of them would group together in the 1940s as the Korean Liberation Army, which took part in allied action in China and parts of South East Asia. Tens of thousands of Koreans also joined the Peoples Liberation Army and the National Revolutionary Army. About 100,000 Koreans fought for Japan during the second world war and thousands of Korean women were sent to the Japanese barracks as “comfort women”. This has been, ever after the war, an element of friction between the two countries.

After the Japan’s defeat, in 1945, the Korea was divided into two zones along an imaginary line, the 38th parallel: the North was occupied by the Soviets and the South controlled by the US, with the agreed political aim to reunify the two countries.

Figure 3: comfort women survived and protected by USA forces in Lameng, US National Archives



On August 8, 1945, after three months to the day, the Soviet Union declared war on Japan. Soviet troops advanced rapidly, and the US government became anxious that they would occupy the whole of Korea. On August 10, the US government decided to propose the 38th parallel as the dividing line between a Soviet occupation zone in the north and a

US occupation zone in the south. The parallel was chosen as it would place the capital Seoul under American control. The division placed sixteen million Koreans in the American zone and nine million in the Soviet zone. To the surprise of the Americans, the Soviet Union immediately accepted the division. The agreement was incorporated into General Order No. 1 (approved on 17 August 1945) for the surrender of Japan.

It was originally intended that the two zones would eventually be reunited.

At the Cairo Conference on November 22, 1943, the US, UK, and China agreed that "in due course Korea shall become free and independent"; at a later meeting in Yalta in February 1945, the Allies agreed to establish a four-power trusteeship over Korea. On August 14, 1945, Soviet forces entered Korea by amphibious landings, enabling them to secure control in the north. Japan surrendered to the Allied Forces on August 15, 1945.

The unconditional surrender of Japan, combined with fundamental shifts in global politics and ideology, led to the division of Korea into two occupation zones, effectively starting on September 8, 1945. The United States administered the southern half of the peninsula, and the Soviet Union took over the area north of the 38th parallel. The Provisional Government was ignored, mainly due to American belief that it was too aligned with the communists. This division was meant to be temporary and was intended to return a unified Korea back to its people after the United States, United Kingdom, Soviet Union, and Republic of China could arrange a single government.

A bilateral commission was created to form a provisory Korean government. However due to the cold war nothing happened.

In December 1945, a conference convened in Moscow to discuss the future of Korea. A 5-year trusteeship was discussed, and a joint Soviet-American commission was established. The commission met intermittently in Seoul, but members deadlocked over the issue of establishing a national government.

In 1948 the two zones set up their own governments: a communist government in the North (led by Kim Il-sung) and a democratic one in the South.

As negotiations with the Soviet Union on the future of Korea failed to make progress, the US took the issue to the United Nations in September 1947. In response, the UN established the United Nations Temporary Commission on Korea to hold elections in Korea. The Soviet Union opposed this move. In the absence of Soviet cooperation, it was decided to hold UN-supervised elections in the south only. In April 1948, a conference of organizations from the North and the South met in Pyongyang, but the conference produced no results. The southern politicians Kim Koo and Kim Kyu-sik attended the conference and boycotted the elections in the South. Both men were posthumously awarded the National Reunification Prize by North Korea. The elections were held in South Korea on May 10, 1948. On August 15, the Republic of Korea formally came into existence. A parallel process occurred in North Korea. A new Supreme People's Assembly was elected in August 1948, and on September 3 a new constitution was promulgated. The Democratic People's Republic of Korea (DPRK) was proclaimed on September 9, with Kim as Premier. On December 12, 1948, the United Nations General Assembly accepted the report of UNTCOK and declared the Republic of Korea to be the "only lawful government in Korea". By 1949, North Korea was a full-fledged Communist state. All parties and mass organizations joined the Democratic Front for the Reunification of the Fatherland, ostensibly a popular front but in reality, dominated by the Communists. The government moved rapidly to establish a political system that was partly styled on the Soviet system, with political power monopolized by the Workers' Party of Korea (WPK).



Figure 4: Kim Song Ju



Kim Sŏng-ju (15 April 1912 – 8 July 1994) was the first leader of North Korea, from its establishment in 1948 until his death in 1994. He held the posts of Premier from 1948 to 1972 and President from 1972 to 1994. He was also the leader of the Workers' Party of Korea (WPK) from 1949 to 1994 (titled Chairman from 1949 to 1966 and General Secretary after 1966).

Both the governments claimed to be the government for the entire Country, pursuing a reunification.

Figure 5: invasion of South Korea



In 1950 the North invaded the South and quickly took control of most of it

From early 1949 Kim Il-sung sought Soviet and Chinese support for a military campaign to reunify the country by force. The withdrawal of most U.S. forces from South Korea in June 1949 left the southern government defended only by a weak and

inexperienced South Korean army. The southern regime also had to deal with a citizenry of uncertain loyalty. The North Korean army, by contrast, had benefited from the Soviet Union's WWII-era equipment, and had a core of hardened veterans who had fought either as anti-Japanese guerrillas or alongside the Chinese Communists. In 1949 and 1950 Kim travelled to Moscow with the South Korean Communist leader Pak Hon-yong to raise support for a war of reunification. For over a year before the outbreak of war, the two sides had engaged in a series of bloody clashes along the 38th parallel.

On June 25, 1950 the Korean War broke out when North Korea breached the 38th parallel line to invade the South, ending any hope of a peaceful reunification for the time being. Due to a combination of surprise and military superiority, the Northern forces quickly captured the capital Seoul, forcing Syngman Rhee and his government to flee. By mid-July North Korean

troops had overwhelmed the South Korean and allied American units and forced them back to a defensive line in south-east South Korea known as the Pusan Perimeter.

The situation reversed thanks to the arrival of the US forces, that pushed the Northern troops close to the Chinese border

The United Nations condemned North Korea's actions and approved an American-led intervention force to defend South Korea. In September, UN forces landed at Inchon and retook Seoul. Under the leadership of US General Douglas MacArthur, UN forces pushed north, reaching the Chinese border. According to Bruce Cumings, the North Korean forces were not routed, but managed a strategic retreat into the mountainous interior and into neighboring Manchuria. Kim Il-sung's government re-established itself in a stronghold in Chagang Province.

Then China stepped in driving the Southern forces below the 38th parallel

Figura 6: volantino propagandistico sull'invasione della Corea del Sud

On 20 August 1950, Premier Zhou Enlai informed the UN that "Korea is China's neighbour ... The Chinese people cannot but be concerned about a solution of the Korean question". Thus, through neutral-



country diplomats, China warned that in safeguarding Chinese national security, they would intervene against the UN Command in Korea. In late November, Chinese forces entered the war and pushed the UN forces back, retaking Pyongyang in December 1950 and Seoul in January 1951.

In July 1953 a cease-fire was signed

The fighting ended on 27 July 1953, when an armistice was signed. The agreement created the Korean Demilitarized Zone to separate North and South Korea and allowed the return of prisoners. However, no peace treaty has been signed.

Figure 7: Phases of the Korean War



About 20% of the total Korean population died during the war

The war essentially became a bloody stalemate. American bombing included the use of napalm against populated areas and the destruction of dams and dykes, which caused devastating floods. China and North Korea also alleged the US was deploying biological weapons. As a result of the bombing, almost every substantial building and much of the infrastructure in North Korea was destroyed. The North Koreans responded by building homes, schools, hospitals, and factories underground. Economic output in 1953 had fallen by 75-90% compared with 1949.

Six decades later, the two Koreas are still technically at war

Figure 8: Phases of the Korean



Kim and Moon soon after the signing of the Panmunjom Declaration

The two Koreas are technically still at war, engaged in a frozen conflict. After the war, the 1954 Geneva conference failed to adopt a solution for a unified Korea. Beginning with Syngman Rhee, a series of autocratic governments took power

in South Korea with American support and influence. Due to Soviet Influence, North Korea established a communist government with a hereditary succession of leadership, with ties to China and the Soviet Union. Kim Il-sung became the supreme leader until his death in 1994, after which his son, Kim Jong-il took power. Kim Jong-il's son, Kim Jong-un, is the current leader, taking power after his father's death in 2011.

In April 2018, the leaders of North and South Korea met at the demilitarized zone and agreed to sign a treaty by the end of the year to formally end the Korean War. This was the first time that a North Korean leader had entered South Korean since the end of the war. Kim Jong-un and Moon Jae-In signed the **Panmunjom Declaration** ([in appendix the full English version of the Declaration](#)).

Panmunjom Declaration, for Peace, Prosperity and Reunification of the Korean Peninsula

This Declaration represents a watershed in the relation of the two countries and opened significant hopes for a rapid rapprochement.

End of the war, definition of a peace agreement, elimination of military tension, creation of a path towards reunification and investing in common infrastructures, namely railways, were the main points.

The enthusiasm following the signature was significant and led immediately North Korea to adjust its time zone to match the South's and South Korea to remove its propaganda loudspeakers from the border area in line with the Panmunjom Declaration.

Current relationship of two Koreas

The inter-Korean summit in 2018 created a peaceful atmosphere, but it began to worsen again in February 2019 due to the collapse of the second U.S.-North Korea summit after Kim Jong-Un requested all sanctions are lifted. Consequently, North Korea resumed missile launches in May. The second inter-Korean summit was held in June 2019, but there was little in the way of forward progress. The then-US President Donald Trump became the first US president to

step foot in North Korea, but no agreement was reached. After talks broke down, relations were restored to their previous state.

When the COVID-19 outbreak happened in 2020, North Korea blocked the border and has continued to struggle with the pandemic. North Korea is expected to try to overcome the current crisis by strengthening internal solidarity in 2022 following 2021. This is because the economic situation is bad due to the continued sanctions against North Korea and the unprecedented long-term blockade of the North Korea-China border caused by COVID-19. Trade with China serves as a major window for economic activities and has yet to resume, so there is a possibility that some initiatives will be taken to ease the border blockade in the future.

North Korea has been testing missiles again from early 2022. Military tensions between the two Koreas could increase as joint U.S. – North Korea training has been going on for a while and major political events such as the 10th anniversary of Kim Jong-un's reign and the 110th anniversary of Kim Il-Sung's birthday are scheduled during the year.

Major changes are expected in terms of policy toward North Korea since Mr Yoon as the new president of South Korea, whose opinions towards North Korea are very different compared to Mr Moon, Previous president of South Korea. Mr Moon sought rapprochement with North Korea and held three summits with the leader of North Korea. However, Mr Yoon made a commitment that he will respond decisively to North Korea's illegal and unreasonable behaviour in accordance with principles but will keep the door open for inter-Korean dialogue. Mr Yoon may soon face challenges from Kim Jong Un as his approach differs greatly from Mr Moon. That said, based on many interviews and release by Mr. Yoon.

OPPOSITE SITUATION

During the last decades, the growth path of the two countries greatly diverged.

North Korea in the 60' was boasting a higher GDP pro-capite than South Korea. As already mentioned, South Korea grew exceptionally between the 60s till 1987, reaching and overtaking by far its sibling, as can be seen in the table below.

Figure 9: Comparison of two Koreas: GDP & per capita GDP

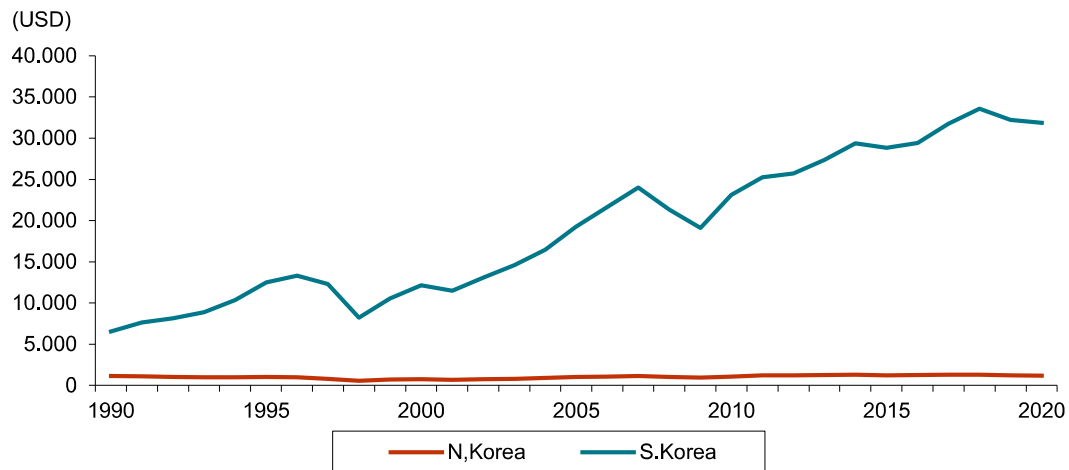
		North Korea (A)	South Korea (B)	Ratio(A/B)
1970	GNI(\$billion)	5.5	8.3	0.663
	GNI per capita (\$)	432	257	1.681
1987	GNI(\$billion)	16.1	144.3	0.112
	GNI per capita (\$)	940	3467	0.271

Source: Kosis, World Bank

North Korea revenue pro-capita was 472 USD in 1970, 1.7 times higher than South Korea's 257 USD pro-capita. However, in 1987 this was just 980 USD pro-capita, 70% lower than South Koera's.

North Korea's current economic status is similar to that of 1970's South Korea, in terms of GDP pro-capita and structural traits such as the dependency on primary industries.

Figure 10: per capita GDP growth rate *



* real per capita GDP, US\$, inflation adjusted price, reference year 2011



Figure 11: nominal GDP, per capita GDP, exports and imports, 2020 data

PII Nominale ('20 – bln \$)	
South Korea	1,631
North Korea	18.3

PII pro capite ('20 - \$)	
South Korea	28,361
North Korea	725.3

Export (bln \$)	
South Korea	512.8
North Korea	0.156

Import (bln \$)	
South Korea	467
North Korea	0.558



NORTH KOREA

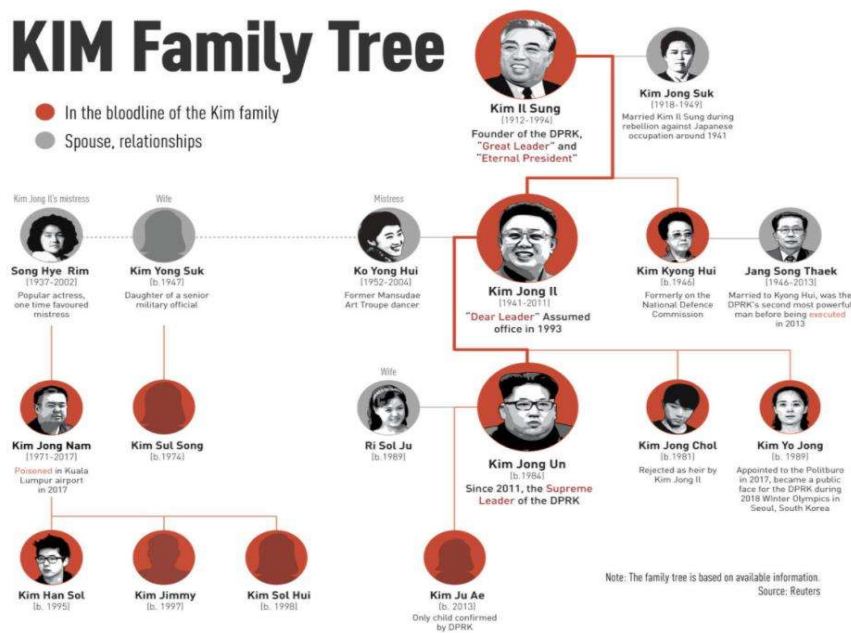
❑ Power still in the hand of Kim dynasty

Figure 8: Kim Jong-Un, actual president of North Korea



Unlike other self-proclaimed socialist countries, North Korea's governance is akin to that of a Royal Family. Kim Il-Sung was the first leader of North Korea from its establishment in 1948 until his death in 1994. Kim had developed a cult of personality. He created the word "Suryong" to describe his leadership – this translates to "strong and absolute leadership of a solitary and great leader". This behaviour has been maintained by his two successors so far: Kim Jong-Il and Kim Jong-Un.

Figure. 12: The KIM family tree



In North Korea, the system of hereditary rule is being consolidated under the pretext that only the so-called three generation lineage accomplishes the revolutionary task of their predecessor.

In 2008, Kim Jong-Il collapsed from a cerebral haemorrhage and made a succession structure urgently, which emerged to emphasize bloodline because Kim Jong-Un was



at this point too young to rule. Kim Jong-Il had tried to prepare Kim Jong-Un as his successor, but the transfer of power was made earlier than anticipated due to the untimely death of Kim Jong-Il.

Who is Kim Jong-un?



Kim Jong-Un is ruling as Supreme Leader of North Korea and has done since his father's death in 2011. He was the youngest son of Kim Jong-Il and spent much of his childhood abroad. He was educated in Switzerland and went to study at Kim Il-Sung National War College in Pyongyang. Initially, Kim Jong-Un's support base was weak. His mother

was half Japanese, and a concubine so did not demand the respect of the North Korean population. Regardless, he was hailed as "The Great Successor" despite his limited political and military experience.

His focus quickly became the control of the military and he continued testing nuclear weapons. Since Kim Jong-Un has risen to the role of Supreme Leader, four nuclear tests have taken place taking the historic total to six. Another policy he has maintained is hostility towards the west including the United States and their peninsular rivals.

Ten years ago, some hoped that Kim Jong Un would collapse, some hoped he could implement economic and political reforms that would change the direction of the secretive authoritarian state.

Ten years later the country has neither collapsed nor opened. Instead, Kim Jong Un has consolidated power domestically, built up North Korea's nuclear and missile arsenal, and managed to somewhat maintain the country's relations with its traditional ally and largest trading partner, China. Despite the COVID-19 pandemic, which has posed a major challenge to the country's economy and could have potentially caused a major health crisis, Kim Jong Un today appeared more confident than ever.

Like his father Kim Jong Il and grandfather Kim Il Sung, the founder of North Korea, Kim Jong Un is a dictator whose legitimacy is bolstered by the Kim family hagiography. The 37-year-old instrumentalizes the brutal tools of repression that he inherited from his father and his grandfather. But Kim Jong Un is far from a carbon copy of his predecessors. In fact, over the past decade, he has established his own distinct leadership style.



One feature of Kim Jong Un's leadership style is his openness, including about his ruthlessness. The 2013 execution of Kim Jong Un's uncle, Jang Song Thaek—a member of the leader's inner circle who was married to Kim Kyong Hui (Kim Jong Un's aunt and Kim Jong Il's sister) and convicted of treason—was unusual not just because it was brutal, but also because it was so public. The details of Jang's trial were reported in North Korean state media shortly after they took place, with a photograph of Jang bent over in humiliation—an unprecedented event in a country whose purged elites normally disappear from the public eye. While both Kim Il Sung and Kim Jong Il consolidated their power by purging rivals, their actions were never made as overtly public.

Kim Jong Un demonstrated his brutality again in 2017, when two women groomed by North Korean agents assassinated Kim Jong Nam, the leader's half-brother, in Malaysia's Kuala Lumpur airport with a chemical agent called VX. This was done despite his half-brother was under China protection. This demonstrated a certain character, but this also made his position more precarious as China is what stands against North-Korea economic collapse, popular uprising and his defenestration. However, Kim Jong Un knows very well that such an evolution could end up into a rapprochement with South-Korea, situation for which China is not ready ... yet.

Kim Jong Un wants and needs the economic help of South Korea but does not want to open his economy as this would affect his position as a dictator. Letting the country to open to SK would weaken the propaganda machine, allowing information from abroad to leak in. This would risk creating a revolutionary movement that could easily topple him up.

A full political reunification could be, counterintuitively, more appealing as a golden exit could be agreed with South Korea.

Kim has also made public admissions of shortcomings in his policy programs. In August 2020, he admitted in a party meeting that North Korea was not meeting its economic goals. He did this again at the eighth WPK Congress in January, when he said that the country had fallen short of almost all the goals in its five-year economic plan due to “various external and internal challenges,” a reference to sanctions, natural disasters, and the nation's border closures due to the COVID-19 pandemic.



Over the past 10 years, Kim Jong Un has also shown his preference for a pragmatic,



rather than ideological, approach to some issues. This includes his approach to North Korea's nuclear and missile tests. The tests have always served both technical and political purposes, meaning that, while

they are meant to contribute to the qualitative improvements of the country's arsenal, they are also a demonstration of North Korean might—both for the international and domestic audience. The country has in the past chosen symbolic dates, such as U.S. Independence Day, to test-fire missiles to increase their political impact.

North Korea under Kim Jong Un has conducted more than 120 missile tests, compared to the around 30 tests total carried out by his father and grandfather. Thanks to this persistence, North Korea now has a missile arsenal that covers a variety of ranges, some types of which could be equipped with nuclear weapons. This does not mean Kim Jong Un has never exaggerated North Korea's capabilities—he has—but it is also true that North Korea now has much more technically sophisticated weapons that he can brag about.

In terms of foreign policy, Kim Jong Un showed a high tolerance for risk, element that could in the future lead to his demise. In 2017, the North Korean leader carried out three intercontinental ballistic missile tests and a nuclear test, despite then-U.S. President Donald Trump's threat to respond with "fire and fury" should North Korea threaten the United States. Once Kim Jong Un achieved his military goal, which was to acquire the capability to strike the U.S. mainland with a nuclear-armed weapon, he turned to diplomacy in 2018, and held a total of three in-person meetings with Trump. That, however, ultimately collapsed as Kim Jong Un demanded sanctions relief and Trump saw North Korea's denuclearization step offer as falling short of what was necessary.

Kim Jong Un also cares about his image. He has been keen to be seen as a leader who cares about and spends time with his people. He revived an annual speech on New Year's Day to explain his policies and rally his people, a tradition begun by his extrovert grandfather but avoided by his introvert father. The younger Kim continues to be portrayed in state media photographs, smiling widely and hugging children or surrounded by soldiers. Here, he is similar to his grandfather but not his father, who



was not often photographed in situations that involved physical contact with ordinary North Korean people.

Kim Jong Un appears ready to make his mark on North Korea's direction clearer in the months and years to come. A sign of that came at January's Eighth Congress of the WPK, which was reportedly held without the normally required portraits of Kim Il Sung and Kim Jong Un as a backdrop. In this meeting, the party eliminated the term "military-first policy" from the preface of the party rules and inserted "people-first politics," a concept introduced by Kim Jong Un. In a country where guiding slogans are important, this could be a signal that Kim Jong Un is prepared to tie his legitimacy to his commitment to improving people's lives—a risky promise, given the North Korea's economy is in a shambles due to mismanagement, pandemic-induced isolation, and sanctions imposed against the country for its bad behavior.

Either the leader will again try to engage with North Korea and USA to improve the economic situation of the country or risks to be deposed by China if a famine as that of 1995 will take place again.

- **Self-sufficiency ideology, called «Juche», led to poverty and starvation**

The North Korean ideology of Juche postulates that "man is the master of his destiny", that the North Korean masses are to act as the "masters of the revolution and construction" and that by becoming self-reliant and strong a nation can achieve true socialism. The practice of Juche is based on agricultural independence and a lack of dependency, with the aim of sustaining the totalitarian rule of the regime.

In the mid-1990s, a famine is believed to have killed up to 1 million North Koreans, around 5% of the population. North Korean claims that the famine was due primarily to natural disasters, but the decline in food production and the deterioration of the public distribution system were visible years before the floods of 1995. The government could have avoided the famine and the shortages that continue to plague the country. According to the United Nations, two in five North Koreans are undernourished with more than two-thirds relying on food aid.

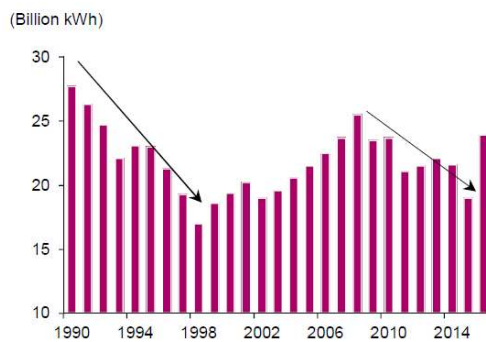


Figura 9: children, North Korea, 1995 famine



A significant part of the huge economic gap between North and South was generated by the collapse of the U.R.S.S. The dissolution of the Soviet Union caused a disruption of key commodities needed for power generation (especially the petroleum): the energy shortages halted production of basic commodities (iron ore), that blocked the production of steel and cement. The North Korea manufacturing base, especially the heavy chemicals sectors, collapsed in the 1990s. The North Korea GDP contracted 4.6% pa over 1990-1997, while, at the same time, the South's GDP rose 8.2% pa over the same period.

Figure 10: North Korea, power generation output



Source: BOK



The North Korea economy is currently based on primary industries, such as agriculture/forestry/fisheries and mining that accounted for 34% of GDP 2016, while the manufacturing represents only 21%.

North Korea's tourism is almost nil. Only around 80,000 inbound tourists are visiting the North annually. In 2017, South Korea had approximately 13.34 million foreign visitors.

Figure 11: North Korea, nominal GDP breakdown

	North Korea	
	2018	2019
Agriculture, forestry & fishing	23.3	21.2
Mining & manufacturing	29.4	29.6
Mining	10.6	11.0
Manufacturing	18.8	18.7
(Light industry)	(6.8)	(7.0)
(Heavy & chemical industry)	(12.0)	(11.7)
Electricity, gas & water supply	5.4	5.4
Construction	8.9	9.7
Services	33.0	34.1
(Government)	(24.6)	(25.2)
(Other services ²⁾)	(8.5)	(8.8)
GDP ³⁾	100.0	100.0

Source: BOK

- **Highly dependent on China**

North Korea and China have been allies since the Cold War era. According to each other's expression, it is blood alliance country. China's support for North Korea dates to the Korean War (1950–1953), when its troops flooded the Korean Peninsula to aid its northern ally. Since the war, China has lent political and economic backing to North Korea's leaders: Kim Il-sung (estimated 1948–1994), Kim Jong-il (roughly 1994–2011), and Kim Jong-un. But strains in the relationship surfaced when Pyongyang tested a nuclear weapon in October 2006 and Beijing backed UN Security Council Resolution 1718, which imposed sanctions on Pyongyang. With this resolution and subsequent ones, Beijing signaled a shift in tone from diplomatic support to punishment. After North Korea's missile launch test in November 2017, China called on North Korea to cease actions that increased tensions on the Korean Peninsula.



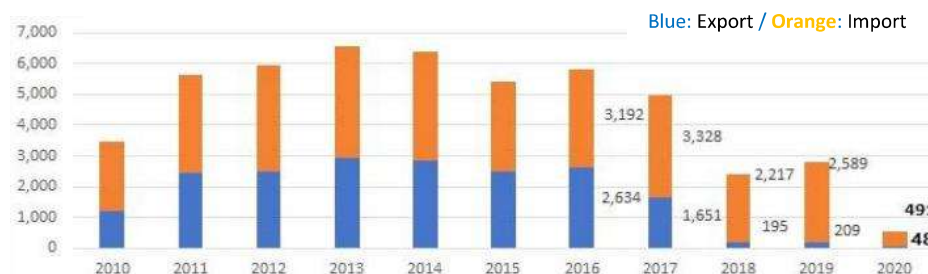
Still, China's punitive steps have been somewhat restrained. While China has backed UN resolutions, in some cases it has withheld support until they were watered down. Additionally, Western officials and experts doubt China's commitment to implementing even limited trade restrictions and have at times accused the country of circumventing sanctions.

North Korea have become dependent on trade with China. It is used as a route to supply not only food but also basic materials for important key industries, without which there would be a substantial shortage. Trade between North Korea and China greatly contributed to easing North Korea's food shortage in the mid-to-late 1990s and played a major role in restoring the North Korean economy. Their dependence on trade with China has intensified further due to the continued economic sanctions against North Korea from the United States and Japan's economic retaliation measures. In fact, since 2017, China has accounted for more than 90% of North Korea's trade volume. The top export items consist of primary industry products like wood, minerals, fuel, and apparels. Cross-border economic transactions with China are driven more by political factors than by economic factors.

Since 2020, North Korea's exports to China like ferrosilicon, watches, wigs and minerals have been virtually cut off due to the border blockade caused by COVID-19.

Kim Jong Un has always played a risky game, leaning between China and the West to get the best from both. The Declaration of peace from North and South Korea in April 2018 could have been driven by China support of the UN sanctions against Pyongyang.

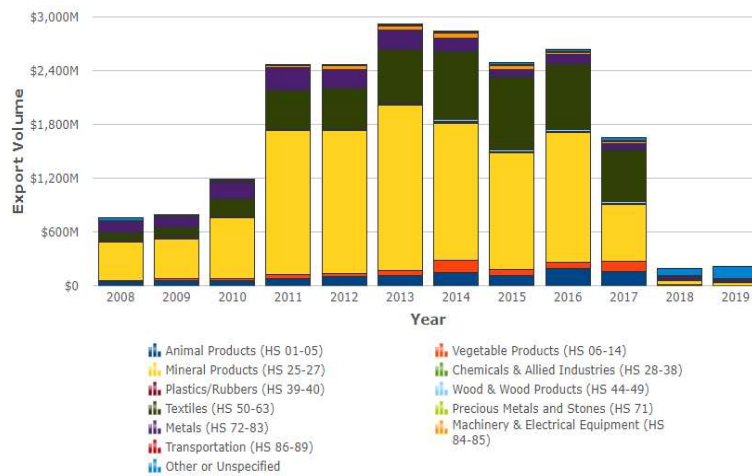
Figure 12: Trends in imports and exports by year between North Korea and China



Source: KOTRA, UN Comtrade



Figure 13: North Korea export to China 2008-2019 Reported Merchandise Trade



Source: KOTRA, UN Comtrade

- **China Support for Reunification**

China officially supports Korean unification if it is achieved peacefully and orderly through the concerted efforts of the two Koreas. Openly supporting a peaceful unification of Korea in principle, Beijing clearly prefers the status quo on the peninsula. Beijing's dominant interest is a peaceful and stable but divided Korean peninsula. Beijing has a strong sense of uncertainty over the future of the US—ROK military alliance, the political fate of the North Korea, and the fallout of Korean unification. China maintains an ambivalent stance regarding the stationing of US Forces Korea (USFK). China officially opposes the stationing of troops in foreign territory, but in recent years has acknowledged the stabilizing role of American troops' presence in East Asia. After Korea's unification, however, China does not recognize the need for a USFK presence.

UPF-Asia Pacific and the Chinese People's Federation for World Peace (CPFWP), an affiliated organization, co-sponsored a webinar on March 27, 2021, on the theme, *"Peace and Reunification of the Korean Peninsula: Chinese Perspectives"* which was attended by over 500 participants from 25 countries.

A panel of four speakers presented their views and here the conclusion of the UPF.



Prof. Seong-hyon Lee, director of the Center for Chinese Studies at the Sejong Institute in Seoul, South Korea, explained the close relationship between China and North Korea as one of “blood ties,” pointing out that the two countries are linked by “socialist solidarity.” China is not pleased with North Korea’s nuclear weapons development, he said, but the bigger issue is China’s rivalry with the United States. He predicts that China-North Korea relations will remain stable in the mid to long term, while China also strengthens its relations with Russia as part of its strategy to counter U.S. power and influence. In other words, **China will not support the reunification of the two Koreas.**

Prof. Zhiyue Bo is the executive deputy dean of the XIPU New Era Development Research Institute in Suzhou, China. He laid out four possible scenarios for the Korean Peninsula: a divided Korea with or without nuclear weapons, or a unified Korea with or without nuclear weapons. He said that China prefers a friendly North Korea with nuclear weapons over all other options, since it would strengthen China’s position with regard to the United States. **A unified Korea with nuclear weapons that is unfriendly to China would of course be the least desirable option, one that China would work against.**

Gen. Wei-ku Fu, founding chairman of the Chinese Sun Tzu Art and Research Institute in Taipei, Taiwan, argued that North Korea should not be expected to **relinquish its nuclear weapons in an insecure environment where unfriendly countries have them.** Sanctions are unreasonable and ineffective, he said, and increased pressure will only lead to greater resistance. To achieve peace, he advised that the international community be sincere, end sanctions and draw North Korea into the economic system of the international community. Only then can reunification be addressed.

Dr. Thomas McDevitt, chairman of The Washington Times in Washington D.C., pointed out that there are growing global concerns about China’s aggressiveness. He expressed the hope that China would not push too hard with the “wolf warrior” mindset, as it is producing backlash, especially in the United States. **He said that the situation on the Korean Peninsula cannot be resolved with a Cold War mindset and**

advocated an “enlightened grand strategy” based on a higher worldview that recognizes the commonality of the human family under Heaven. He explained that UPF’s global networks of people from all walks of life who sincerely seek peace can play a role in resolving international conflicts, like the one on the Korean Peninsula.

In his closing remarks, **Prof. Thomas Hwang, international president of CPFWP**, reminded the audience that Chinese philosophy is rooted in the concept of “heavenly principles” and stresses working for the greater good. He said that, when interests collide as they do on the Korean Peninsula, if all parties seek to align with heavenly principles, they can find the best solution. **For Korea, he said, the ideal would be to become a neutral, unified country, without nuclear weapons or foreign troops.** He explained that UPF co-founders Rev. Sun Myung Moon and Dr. Hak Ja Han Moon have proposed creating a Peace Park in the DMZ and opening an Asia Regional Office of the United Nations there. **He expressed the hope that China would support the effort to make Korea a unified, neutral country, like Switzerland, through a mechanism such as the six-party talks.**

- **A heavily militarised and nuclearized State**

North Korea has the second largest number of total military personnel in the world and by far the largest as a % of the population - with 7,679,000 troops out of an approximate population of 25 million. There are 1,190,000 active, 6,300,000 reserve and 189,000 paramilitary personnel.

Nevertheless, many of the North Korea’s conventional armaments are decades old, having been manufactured between the 1950s and the 1970s or designed from Chinese and Russian equipment dating back to that era.⁴

North Korea has long been criticized for spending a large proportion of its budget on developing weapons. Between 2004 and 2014, it spent nearly a quarter of its gross domestic product on the military, by far the highest percentage relative to GDP of any country in the world.

Figure 17: The military balance on the Korean Peninsula



As shown below, North Korea army, while less modern, is way bigger than the already sizable South Korea's one.

North Korea has active and increasingly sophisticated nuclear weapons and ballistic missile programs. The country unilaterally withdrew from the Treaty on the Non-Proliferation of nuclear weapons in 2003. Despite the heavy sanctions imposed by the international community, the country has continued to escalate its nuclear activities. In July 2017, North Korea successfully tested its first intercontinental ballistic missile, and in September 2017 it conducted a test of what it claimed was a thermonuclear weapon. Despite multiple tests, North Korea still lacks missile re-entry capability and terminal guidance technology.

Figure 17: North Korea, nuclear weapons, parade

CLASSIFICATION		SOUTH KOREA		NORTH KOREA (ESTIMATES)	
		IISS	ROK Ministry of National Defense	IISS	ROK Ministry of National Defense
TROOPS	ARMY	490,000	464,000	1,100,000	1,100,000
	NAVY	70,000 (including 29,000 Marine Corps)	70,000 (including 29,000 Marine Corps)	60,000	60,000
	AIR FORCE	65,000	65,000	110,000	110,000
	STRATEGIC FORCES (nuclear and ballistic missiles)	X	X	10,000	10,000
	TOTAL TROOPS (excluding reserves)	625,000	599,000	1,280,000	1,280,000
	RESERVES	3,100,000	3,100,000	6,300,000	6,300,000
	EQUIPMENT				
	ARMY				
	NAVY				
	AIR FORCE				
EQUIPMENT	ARMY	2,614	2,300	4,060	4,300
	ARMED VEHICLES	2,956	2,800	2,532	2,500
	ARTILLERY	4,853	5,800	6,000	8,600
	MULTIPLE ROCKET LAUNCHERS	214	200	5,100	5,500
	SURFACE-TO-SURFACE MISSILE LAUNCHERS	30	60	100	100
	NAVY				
	COMBAT-CAPABLE SURFACE VESSELS	144	100	385	430
	AMPHIBIOUS VESSELS	9	10	267	250
	LOGISTICS AND SUPPORT VESSELS	10	10	24	20
	SUBMARINES	7	20	23	40
EQUIPMENT	NAVY	22	10	73	70
	AIR FORCE				
	COMBAT-CAPABLE AIRCRAFT	590	410	545	810
	TRANSPORT AIRCRAFT	38	50	217	340
	INTELLIGENCE AND SURVEILLANCE AIRCRAFT	38	70	30	30
	SURFACE-TO-AIR MISSILE LAUNCHERS	206	206	350	350
	HELICOPTERS (Army/Naval/Air Force)	693	680	286	290

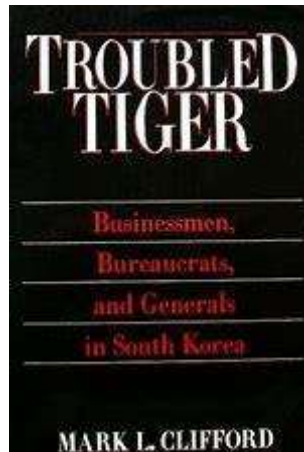
SOURCE: IISS, The Military Balance 2019; and ROK Ministry of National Defense, 2018 Defense White Paper

NOTE: ROK fighting vehicles and armored vehicles include Marine Corps equipment.



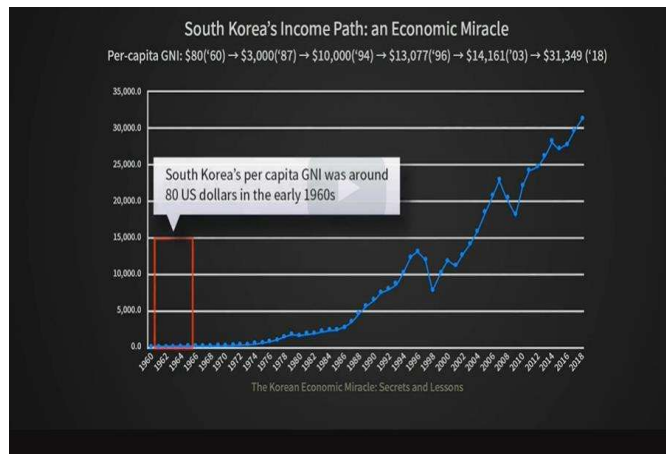
SOUTH KOREA

- ❑ By the 80s the country climbed out of poverty and moved to modern democracy



By the 1960s, North Korea enjoyed a relatively high standard of living, outperforming the South, which was fraught with political instability and economic crises. The situation reversed in the late 1980s, as South Korea became a powerful economy and a stable democracy on the path to become a developed economy. Mark Clifford in his 300-plus page describing this transformational period, from 1961 to 1987, uses the term “**nuclear explosion**” to better provide a measure of its intensity.

South Korea’s economic take-off was orchestrated by an authoritarian leader. From 1961 to 1987 the revenue pro-capite of Korea moved from 80 USD to 3467 USD. This was reached despite the population increasing from 26 mln to 42 mln individuals. In



1961 General Park Chung-Hee launched a coup, toppling the incumbent democratic government. He was elected as President through a free election in 1963 and ruled in an authoritarian way till 1979 when he was murdered. He

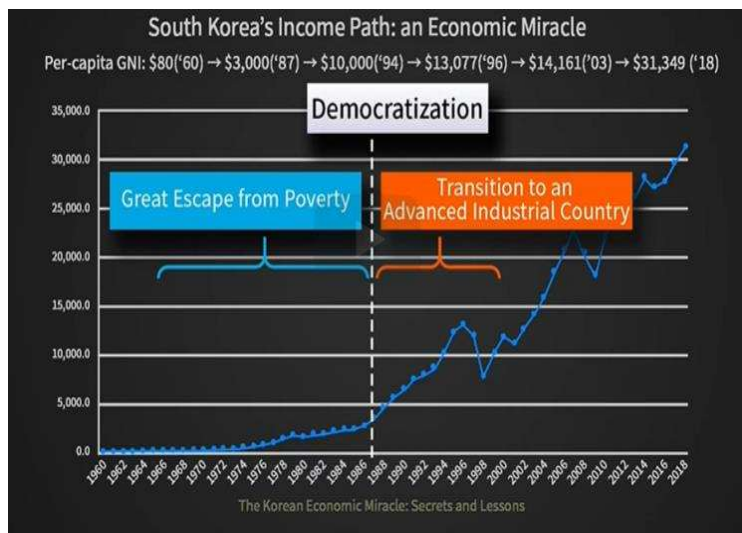
was succeeded by Gen. Chun Doo-Hwan, who also grab the power through a coup. Park’s tenure as president may be divided into two sub-periods: First, 1963~1972 as a democratically elected president, and 1973~1979 as “Yushin” president, who eliminated all hurdles to his perpetual presidency through an undemocratic constitutional amendment, for what he called Yushin or revitalization.



“We should no longer leave the destiny of our nation and the people with the current incapable government and the existing politicians ... we should act to save our motherland from this crisis.” This was Park Chung-hee’s justification for his first military coup.

First looking at slow economic growth of South Korea in the 50s, Park Chung-Hee (The 5th~9th president; 1917~1979) announced the Five-Year Economic Development plan to promote growth. The plan was one of export-oriented industrialization. As a result, an export-led economy centered on light industry (textiles, garments, and footwear) was laid with infrastructure such as roads and ports were greatly expanded. During this period, the South Korean economy started to grow rapidly. In the 1970s, two global oil crises took a toll on the Korean economy. As usual, when economy does not perform the stability of governments is put under strain. And this was the case also for Park Chung-hee leadership. Park Chung-hee to counter social unrest launched Yushin presidency in 1973, a new regime that suppressed most of the democratic rules and rights in the country. **North Korea’s heightened belligerence was the main justification/pretext for this Yushin regime** and his subsequent doubling down on the

oppressive politics.



In 1973, Park Chung-hee launched a new initiative with important lasting consequences for the South Korean economy drive. A “Plan to Nurture

Heavy and Chemical Industries”, also called the HCI. This stood for Park Chung-hee’s developmental state approach to industrial advancement - top-down promotion of the upgrading of the industrial structure to those of technology leaders (demonstrating what would be later named *absorptive capacity*). Two concerns inspired the HCI drive. First, the need for South Korea to build industries for self-



defense capabilities against North Korea. Second, the realization that South Korea could not continue export-led economic growth and industrial development for long unless the country leapfrog from exports of current light-manufactured products to those of products with higher technology and value-added contents. South Korea executed massive investment in “HCIs”, six broadly defined strategic industries of advanced technologies and high capital intensity: steel, non-ferrous metals, machinery, shipbuilding, electronics, and chemical. The government took charge of the HCI drive with the president at the helm. Park Chung-hee formed close partnerships with business leaders to execute investment. He offered big businesses a broad range of generous supports such as massive preferential loans, tax subsidies, and heavy protection from imports. The HCI drive was discontinued after President Park’s death. The HCI investment drive was controversial from the start. It mobilized a massive amount of resources and became a major source of inflationary pressure. It resulted in overinvestment and entailed huge excess capacities when the world economy was struck by the 2nd oil shock in 1978 and the consequent global recession. The national economy was thrown into a crisis for which it was not equipped. The HCI caused the suppression of the market mechanism and competitive banking. It accelerated the growth of family-controlled business conglomerates, called “chaebol”. It fostered cozy relationships between chaebol and politicians. It also fostered concentration of economic power in chaebol conglomerates. This period reminds the Chinese authoritarian development that allowed to create a powerful industrial base in few years, protected by competition and Unions. Differently from China though Park Chung-hee was assassinated by the head of secret services as a reaction to his violent suppression of people protests, in the wake of the 1978 economic crisis. HCI drive left the South Korean economy with serious structural issues by the time of his assassination in 1979. Sorting them out was Chun Doo-hwan’s job. This, again, was a general who took the power with a coup. However, he demonstrated pragmatism and vision. He mobilized a group of market-oriented economists to implement reforms to replace Park Chung-hee state-led economy with a market-led growth paradigm.



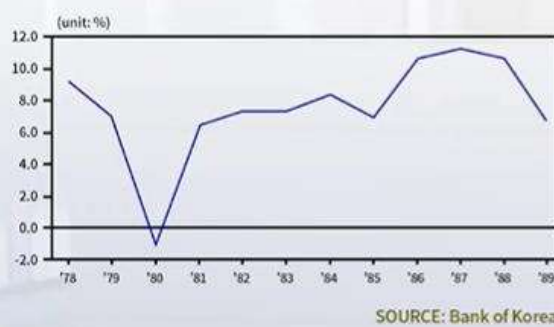
Chun Doo-hwan's economic reforms consisted of the following:

- 1 macroeconomic stabilization,
- 2 across-the-board industrial trade liberalization,
- 3 introduction of competition laws,
- 4 streamlining of the overinvested HCI sectors,
- 5 replacement of industry-specific promotion with promotion of technology development with enhanced R&D support,
- 6 FDI liberalization



President Chun Doo-hwan called Dr. Jae-ik Kim, his Senior Secretary of Economic Affairs, “the economic president”. A Ph.D. from Stanford University, Kim masterminded South Korea's reforms to transition to a market-led economy. He was killed in a terror plotted by North Korea in Myanmar in 1982.

GDP growth per year, 1978~1989



This transition to the market-based economy paradigm revived South Korea's economic growth dynamism. Chun Doo-hwan's economic reforms made an important contribution to the Korea Miracle by serving as the antidote to the excesses of Park's HCI drive, excesses that helped to build the base of Korean industrial powerhouse though. Chun Doo-hwan's economic reforms helped the South Korean economy to resume strong export-led growth by the mid-1980s, helped also by global economy recovery and the so-called the “three-low boom” of low oil prices, low interest rates, and low dollars. The

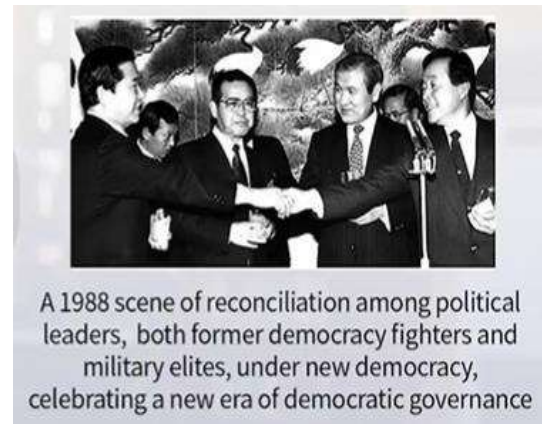
A residential neighborhood in Seoul in the 1960s



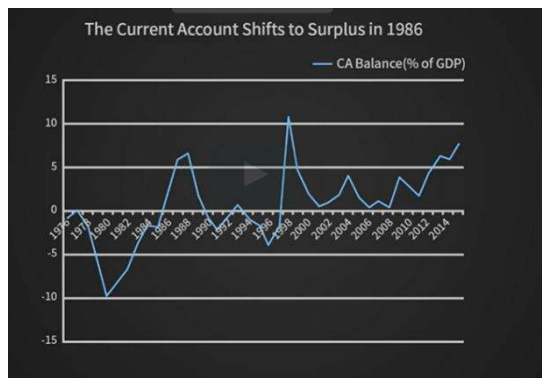
An apartment complex in Seoul in the 1980s



industry also began to diversify from heavy industry to technology-intensive industries such as semiconductors, electronics, and automobiles.



Reset in the new market-based paradigm, the South Korean economy recorded double digit growth rates for three consecutive years around 1987. The favorable global environment also helped South Korea shed its chronic deficits and shift to surpluses on its current balance of payments account. South Korea realized a self-reliant economy. President Chun Doo-hwan gave in to people's massive rallies protesting continuation of the military rule in June 1987 and offered immediate transition to democracy.



In the 1990s, economic growth continued and joined the Organization for Economic Cooperation and Development (OECD). Some argue that Korea's economic development was not led by the government, but by the cooperative system between Company's, Markets, and Government, with the

companies being at the core of the system. The Park Chung-hee administration chose a policy to foster competitive companies in the export market. As a result, uncompetitive companies were expelled, and competitive companies grew from the mass support received from the government. This laid the foundation of 'Chaebols' such as Samsung, Hyundai, and LG.

Due to excessive growth-fueled debt of corporations, continued consumption-driven trade deficits, and soaring exchange rates, the economy collapsed and needed bailout support from the International Monetary Fund (IMF) in 1997.



The Kim Dae-Jung administration (1998-2003), which was launched amid the financial crisis, strongly promoted reforms, and restructuring of companies and finance. The IMF offered harsh conditions, and this led to a sense of nationalistic reaction. The gold-collecting movement then began in 1998, with the people raising their voices to collect gold in the face of South Korea's fallen status and the trampled pride. People of all ages and from all areas of South Korea started to collect gold. As a result, 227 tonnes of small amounts of gold from all over the country. Although it was less than half of the amount received through the bailout application, it kept the country together in those difficult years. The country, counting on its powerful industry and its cohesive social tissue, paid off all debts in just 4 years. In 2001, the Financial Management System that the IMF imposed on South Korea was ceased. After the foreign exchange crisis, the Korean economy was driven towards high-tech industries, again demonstrating **absortive capacities**. As a consequence, South Korea has gained global competitiveness not just in industries such as steel, shipbuilding, automobiles, but also in semiconductors, mobile phones, and liquid crystal displays (LCDs).



Period	GDP Growth Rate(% p.a.)
1953-1961	4.1
1962-1971	8.9
1972-1981	8.8
1982-1991	10.0
(1962-1991)	(9.2)
1992-2001	5.7
2002-2011	4.9
(1962-2001)	(8.4)
2012-2015	2.8

From 1962 to 2001 the country had grown its GDP by an annual rate of 8.4%, topping any other country in the world. Enlighted authoritarianism, significant human productivity and drive, a timely migration to democracy and a bit of luck all contributed to the Korea Miracle recipe.



❑ Korea has now considered as a developed country

After 2001 exports continued to increase, and by the end of 2011, the trade volume exceeded 1 trillion USD, and Korea is now the world's 10th largest economy and is taking the lead in solving global economic problems by participating in the G20.

Over the past four decades South Korea has demonstrated unbelievable economic growth and global integration to become a high-tech industrialized economy. South Korea is among the top leaders for manufacturing value-added, as well as for tertiary efficiency (this measure includes enrolment in higher education and the concentration of science and engineering graduates).

In July 2021, United Nations Conference on Trade and Development (UNCTAD) has unanimously changed Korea's status from group of developing countries to a group of developed countries. Now, ranked 10th in GDP ranking, 7th in exports, and 6th in military power, with exceeding \$30,000 national income, and more than 50 million of population. It is the first time in history that a developing country has risen to a group of developed countries since the establishment of the UNCTAD (1964).

A developed country simply does not mean just a wealthy country, or a powerful country, or a country with a lot of capital and a lot of production scale or income. For example, looking at the indicators of advanced economies announced by the IMF, countries such as China, which has a population of over 1.4 billion and boasts the second largest GDP in the world, or Qatar or the United Arab Emirates, which have the world's highest per capita GDP using oil money, are not classified as advanced countries.

The standards of developed countries include GDP per capita, Human Development Index (HDI), high-income group of OECD countries defined by the International Monetary Fund (IMF), and members of the Development Assistance Committee (DAC). The UN's Human Development Index (HDI) is calculated as the geometric average of the education index, life expectancy index, and Gross National Income (GNI).

HDI Criteria

Components	Korea (22nd)	Very-high HDI avg. (62 countries)	Global avg.
Life expectancy at birth (years)	82.8	79.5	72.6
Expected years of schooling	16.4	16.4	12.7
Mean years of schooling	12.2	12.0	8.4
Gross national income (GNI) per capita (USD)	36,757	40,112	15,745
HDI	0.906	0.892	0.731

Source: UNDP

❑ It is the world's biggest investor in R&D relative to GDP

South Korea is characterized by high R&D intensity and patent activity. The Country can claim the second highest R&D/GDP ratio in the world, just after Israel (available data 2019). In terms of total expenses, it ranks fifth behind USA, China, Japan and Germany. Considering R&D per capita expenses, it ranks instead first, even before USA.

Figure 14: Ranking of the first 10 countries by total R&D expenditures, in % of GDP and per capita

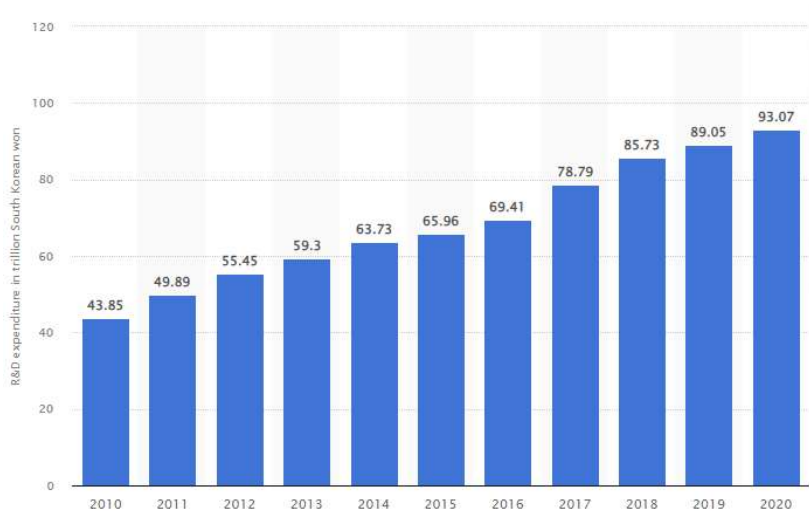
	Country/Region	Expenditures on R&D (billions of US\$, PPP)	% of GDP PPP	Expenditures on R&D per capita (US\$ PPP)	Year	Source
19	 Israel	16.888	4.9	1,810	2019	[2]
5	 South Korea	100.055	4.6	1,935	2019	[2]
9	 Taiwan	42.945	3.5	1,822	2019	[2]
18	 Sweden	17.722	3.4	1,707	2019	[2]
3	 Japan	172.614	3.2	1,375	2019	[2]
4	 Germany	131.932	3.2	1,586	2019	[2]
22	 Austria	14.945	3.2	1,672	2019	[2]
1	 United States	612.714	3.1	1,866	2019	[2]
28	 Denmark	8.2	3.1	1,450	2014	[4]
23	 Switzerland	13.1	3.0	1,648	2012	[6]

Source: Wikipedia

South Korea, which lacks any significant natural resources, has been successful in implementing an export-oriented economic development plan. This has included focusing on technological development and innovation to be the catalysts behind South Korea's long-term growth and emergence in global competitiveness.



Figure 15 Total amount of expenditure on research in South Korea



According to Cohen and Levinthal (1989, 1990) *“Absorptive capacity is an organisation’s ability to identify, assimilate, transform, and use external knowledge, research and practice. In other words, absorptive capacity is the measure of the rate at which an organisation can learn and use scientific, technological or other knowledge that exists outside of the organisation itself. It is a measure of an organisations ability to learn”*.

According to a popular paper written by Keun Lee in 2019 (<https://www.researchgate.net/publication/335296887> The Origin of Absorptive Capacity in Korea How Korea n Industry LearntHow Korean Industry Learnt) South Korea adopted early the idea of absorptive capacity to enhance innovation in a world where the technology sector was growing at a rapid rate.

The Governments R&D budget surpassed 10 trillion won in 2008 and exceeded 20 trillion won in 2019. In 2022, it is forecasted to be as high as 29.8 trillion won. This Government investment in R&D is responsible for 23.2% of R&D, with the private sector contributing to the other 76.8% of the 90 trillion won spend on R&D.

This is the result of the Government’s policies influencing private sector behavior so that they are best prepared for the future through active efforts to continue innovating in science and technology to lead the markets of the future.

PUBBLIC OPINION STANCE VERSUS REUNIFICATION

Support for reunification in South Korea is still solid although it has been falling, especially among the younger generations. In the 1990s, the percent of people in government polls who regarded reunification as essential was not far from 90%. By 2017 that number was below 60%.

According to a December 2017 survey released by the Korea Institute for National Unification, 72.1% of South Koreans in their 20s believe reunification is unnecessary, with younger South Koreans saying they are more worried about issues related to their economy, employment, and living costs.

Polls show many South Koreans, even those in age groups traditionally seen as being more eager to reunify the peninsula, are not willing to see their living conditions decline in order to accommodate a reunification with the North. Moreover, about 50% of men in their 20s see North Korea as an outright enemy that they want nothing to do with. This has to do to the political climate they have grown upon. Media having been reporting the aggressive attitude of the NK dictatorship.

However, many experts deem likely that was the opportunity for a reunification to arise most of Koreans would firmly stand behind. As described at the beginning of this paper, common roots with NK are deeply entrenched in the cultural tissue of the country.

The growing preference versus an economic rapprochement versus a full political reunification meets, however, skepticism among the young more cultivated individuals, who manage to see how a reunification can, as much as the reunification of Germany did, shelter the area from significant geopolitical shifts that can jeopardize peace and future growth. Here the link to an interesting article: [South Korea's Shift Away From Reunification Is a Bad Sign for the Korean Peninsula – The Diplomat.](#)



POLITICAL STANCE VERSUS REUNIFICATION

South Korea's leaders could face immense crisis management pressures that would impact political, military, and economic decision making. That would be particularly apparent in the aftermath of a major trigger such as regime collapse in North Korea and the possibility of Chinese military intervention to prevent South Korean and U.S. forces from entering into North Korea in such a scenario. In that situation, however, we think a new more moderate government could be installed by China, triggering an economic rapprochement with South Korea.

According to a poll conducted by Carnegie in 2020, deep political divisions within South Korea persist between the left and the right on how to pursue unification. Right-wing South Koreans are far more willing than left-wing South Koreans to think about unification in terms of absorption, meaning that a unified Korea would adopt South Korea's form of liberal democracy and free market economics. Many South Korean progressives pay more attention to ensuring that North Korea would be treated as an equal political partner in unification. This makes a leftish government clearly more able to pull such a reunification. And the recent election of Yoon Suk-yeol, a conservative, makes a full political reunification unlikely for the next few years. Yoon Suk-yeol is keen to improve his relations with USA and this will stiffen China stance towards a full political reunification.



NORTH KOREA Vs SOUTH KOREA

Figure 16: population, comparison, data 2020 & Figure 17: life expectancy, comparison, data 2020

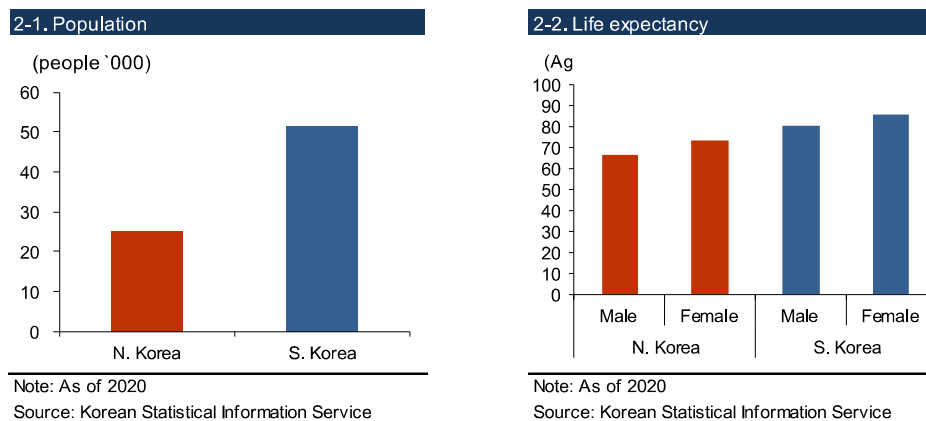


Figure 18: daily calorie availability, comparison, data 2020 & Figure 19: fertility rate, comparison, data 2020

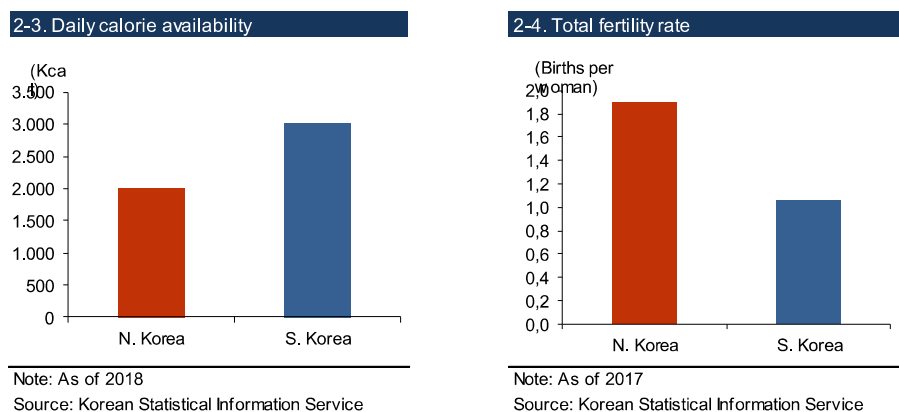


Figure 20: median age, comparison, data 2020 & Figure 21: energy generation, comparison, data 2020

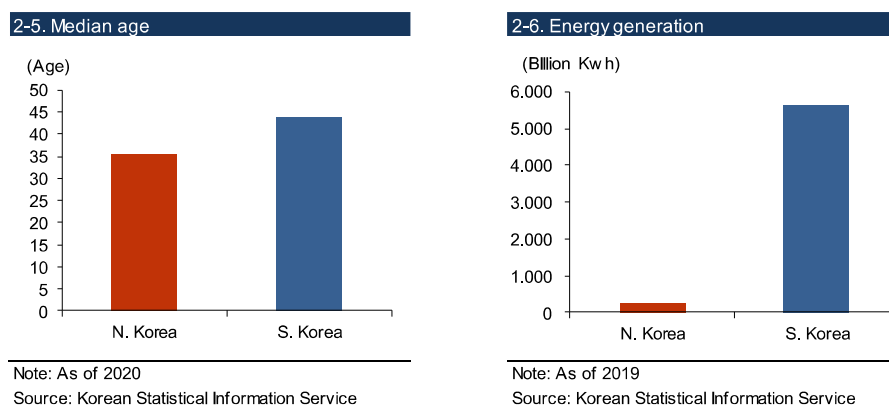


Figure 22: land mass, comparison, data 2020 & Figure 23: roads, comparison, data 2020

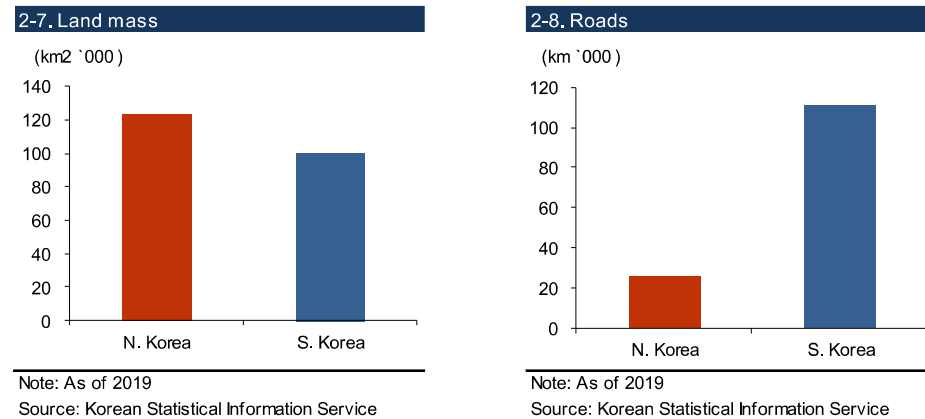


Figure 24: railways, comparison, data 2020 & Figure 25: churches, comparison, data 2020

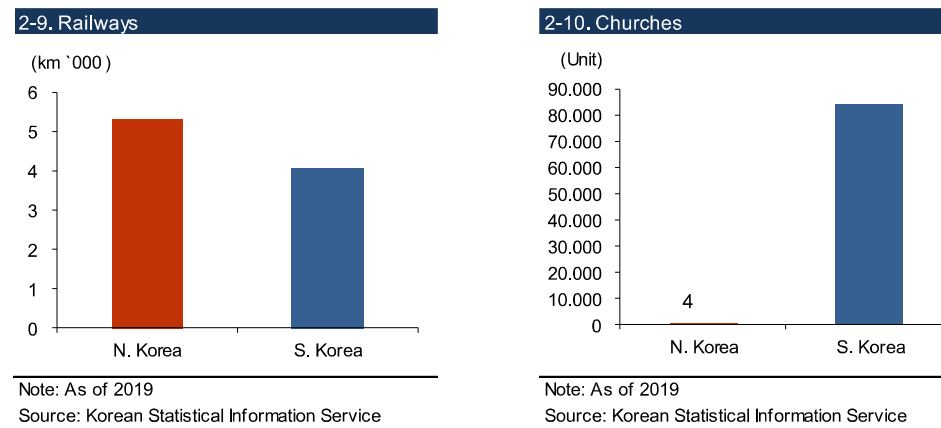
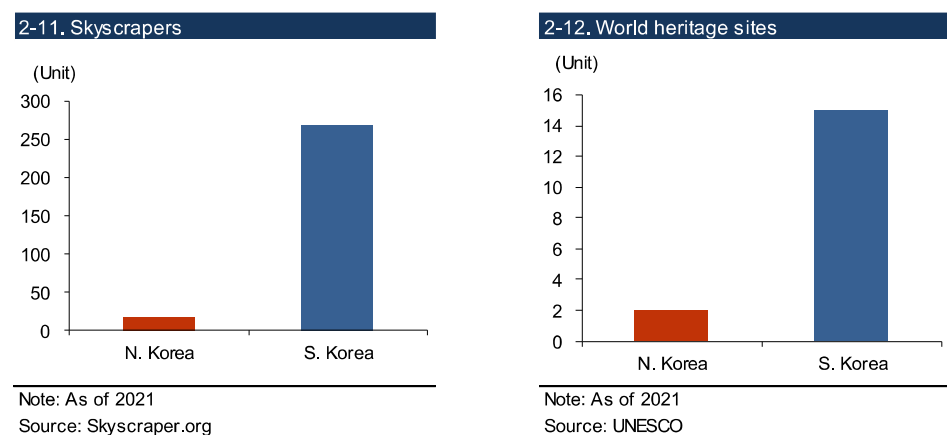


Figure 26: skyscrapers, comparison, data 2020 & Figure 27: world heritage sites, comparison, data 2020



❑ Population

In 2020, the North Korean population was 25.37 million, about half of South Korea's (51.84 million). Most North Koreans live in the south and west of the country, which is mainly made up of lowlands. The north of the country is more mountainous and far less densely populated. The only city in North Korea with a population of more than one million people is the capital Pyongyang, whose population is above 3 million (2008 census).

In 2020, life expectancy in North Korea is 66.9 years for men and 73.6 years for women, 13.6 years lower for men and 12.9 years lower for women than in South Korea.

According to the FAO, in 2018, North Korea's energy supply per day was 2,019 kcal, which is 67.0% of South Korea's (3,012 kcal). In 2018, North Korea's daily supply of protein and fat went down from 0.7% to 0.3% (53.3g and 34.5g), which is less than half of South Korea's.

North Korean population is much younger and has high birth rates considering the aging populations in East Asia. The distribution of the population by age in North Korea in 2020 was 19.89% for "0 -14 years old", 70.3% for "15-64years old", and 10.0% for "65years old or older". North Korea is 7.6% higher than South Korea for "0-14 years old" people than South Korea, but 5.7% lower for "65 years old or older". Despite the North Korea's fertility rate started to decline in the late 20th century to approx. 1.9 births per woman, it's almost double that of South Korea.

❑ North Korea's territory is 20% higher the size of South Korea



❑ **North Korea's road network is very small and mostly unpaved.**

North Korea's total road length is just 25% of the South's network. In addition, less than 10% of the North's roads are paved, while most of its trunk roads have just one or two lanes.

North Korea has an old though extensive rail network however it's in a poor condition since it was built during the Japanese period. The total length of North Korea's railroad is 5,296km, 1.3 times longer than South Korea's. More than 80% of the railroad is in operation, however, 97% of the routes are operated inefficiently in a single line and is difficult manage due to lack of electricity and energy shortages.

Therefore, problem arise when the rails run at over 50km/h. This is why North Korean railways operate around 30km/h. Less than 5% of the network has a double-track line. The locomotives are currently based on Czech technology in the 1950s and 1960s.

North Korea relies mainly on hydroelectric and thermal power generation. During the Japanese regime hydroelectric power resources were established along the Yalu River. Thermal electricity became important because of lower construction costs and the unpredictability of hydroelectric power during the dry period. So, North Korea's energy supply and demand structure is simpler compared to South Korea (oil, coal, LNG, etc.), which utilizes various energy sources.

Among them, coal is an important energy resource with relatively abundant reserves throughout North Korea. However, as for the conditions of coal mining, capital, technology, and equipment are outdated, and production efficiency is declining due to the lack of coal mining equipment and infrastructure. Poor transport infrastructure is also a factor that contributes to the difficulties of coal mining. North Korea's coal production in 2020 was 19 million tons, down 6.0% from the previous year, but 18.6 times that of South Korea (1.02 million tons). ton) of 4.5 times.



Figure 28: industrial output comparison

Industrial output comparison

Category	Type	South Korea	North Korea	Vs (A/B, x)
Energy	Coal production (10,000 tonnes)	173	3,106	0.1
	Power generation capacity (10 MW)	10,587	766	13.8
	Power generation (100 GWh)	5,404	239	22.6
	Crude oil imports (10,000 barrels)	107,812	390	276.4
Agricultural & Fisher	Grain production (10,000 tonnes)	437	482	0.9
	Rice production (10,000 tonnes)	420	222	1.9
	Production of marine products (10,000 tonnes)	326	101	3.2
Mining	Iron ore production (10,000 tonnes)	45	525	0.1
	Nonferrous metal production (10,000 tonnes)	18	10	1.8
Manufacturing	Car production volume (10,000)	423	0	1,057.3
	Steel production volume (10,000 tonnes)	6,858	122	56.4
	Cement production volume (10,000 tonnes)	6,155	708	8.7
	Fertilizer production volume (10,000 tonnes)	207	60	3.4
	Chemical fiber production volume (10,000 tonnes)	165	2	68.8
Infrastructure	Railways (km)*	3,874	5,304	0.7
	Roads (km)	108,780	26,176	4.2
	Port loading capacity (10,000 tonnes)*	114,092	4,156	27.5
	Ships owned (10,000 tonnes)	1,304	93	14.0

Note: *As of end- 2015; all others as of end-2016

Source: BOK



THE KOREAN PENINSULA: THREE SCENARIOS

1. STATUS QUO
2. REUNIFICATION
3. TRANSITION TO A MARKET ECONOMY

In the status quo scenario the Korean equity is already attractive: we gain exposure to a highly interesting market with free options provided by the first and second scenario

1ST SCENARIO: THE STATUS QUO

In the «status quo» SCENARIO the Korean equity looks attractive

Korea is one of the cheapest world market, partially due to:

- political risk related to the North Korea (denuclearization needed)
- concerns on weaker corporate governance
- Emerging market status

The charts below show the low Price/Earnings ratio of this market compared to other Asian economies and the world's major stock market, despite its significant earnings growth.



Figure 30: Korea, historical forward P/E

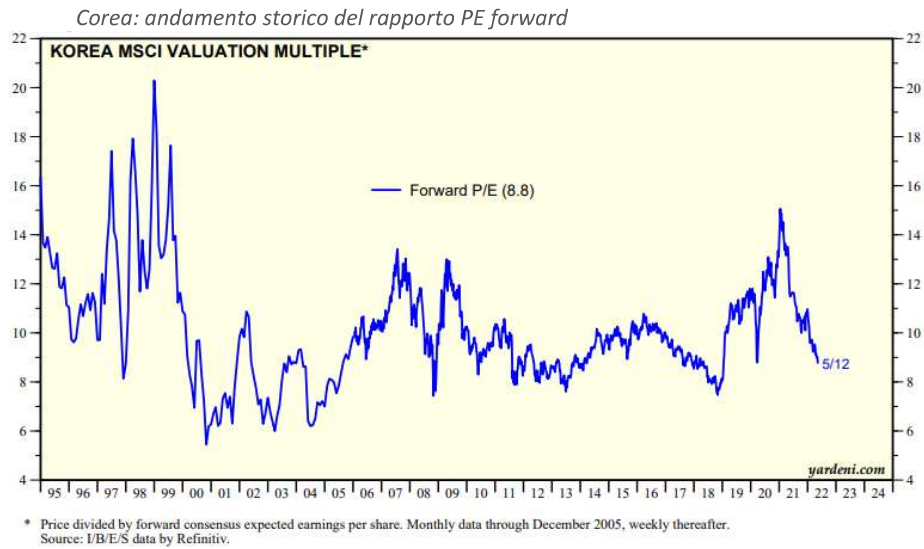


Figure 31A: P/E 2022 (MSCI Index), Thomson Reuters

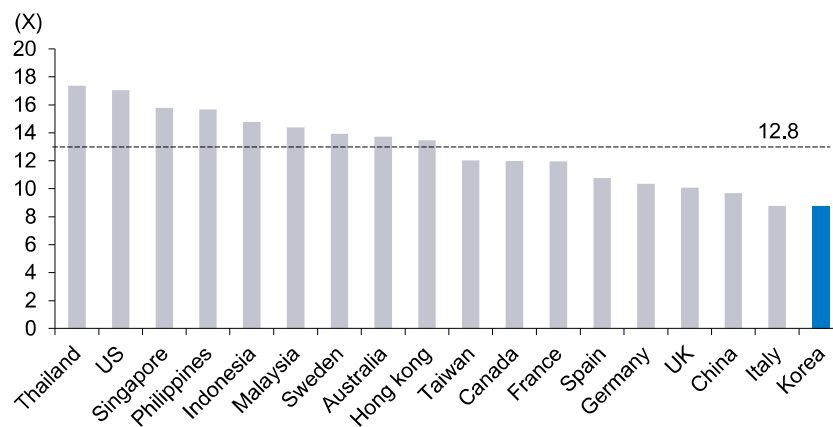
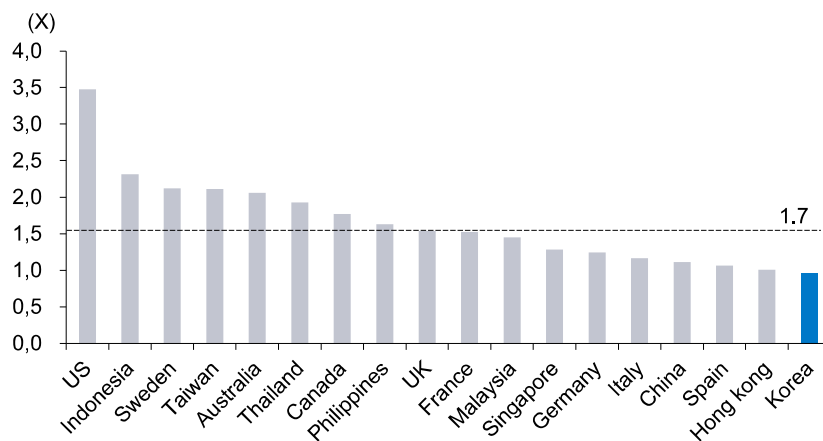


Figure 31B: P/BV, 2022 (MSCI Index), Thomson Reuters

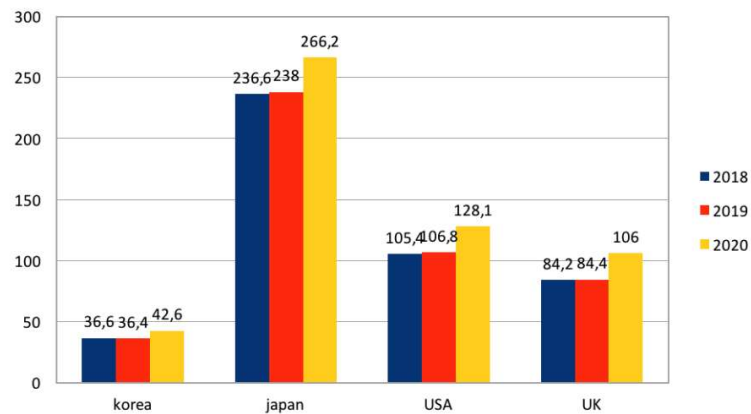


as of 20/05/2022



Korea's debt is low and the GDP growth outlook is sound

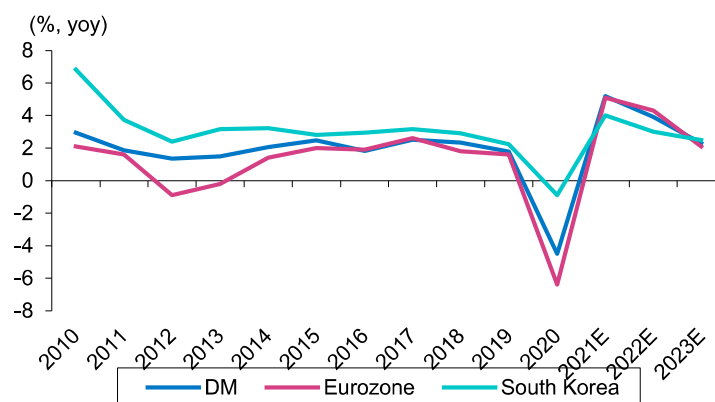
Figure 29: Korea, debt, in % of GDP, FMI



Korea has a low level of public debt in absolute terms and even more so than other developed economies. This low level of debt is the result of the political will to maintain a high degree of financial flexibility in the event of reunification with North Korea, given the large investments this would entail.

As can be seen from the chart below, Korea has experienced robust economic growth over the past decade, outpacing that achieved by other developed economies.

Figure 30: Korea, GDP growth, comparison, FMI



Visible Triggers

- **Corporate governance improvements and unwinding of the chaebol control chains**

The word chaebol is a combination of the Korean words *chae* (wealth) and *bol* (clan). South Korean's chaebol are family-owned businesses that typically have subsidiaries across diverse industries. Traditionally, the chaebol corporate structure places members of the founding family in ownership or management positions, allowing them to maintain control over affiliates. Chaebol have relied on close cooperation with the government for their success: decades of support in form of subsidies, loans and tax incentives helped them become pillars of the South Korean economy.

Korea's Fair Trade Commission identified 45 large groups that fit the classification of a chaebol. The firms included in the five largest chaebols represent over 50% of the Korea main equity index (Kospi). Most of their privileges come from lobbying the MP, not always using proper means. The voters have grown dissatisfied unhappy with these tycoons, not only for their autocratic leadership and questionable dynastic succession practices, but also for some episodes of corruption and misconduct. Those episodes involved most of the chaebols, drawing severe criticism and created controversies.

Major scandals involving Samsung and other big chaebols

Year sentenced	Name	Charges	Sentence
1996	Lee Kun-hee (Former Samsung chairman)	Bribery	2 years in jail*
2008	Lee Kun-hee	Tax evasion, breach of trust**	3 years in jail,* fined 110 billion won (\$90.5 million)
January 2021	Lee Jae-yong (Current Samsung vice chairman)	Embezzlement, bribery	2.5 years in jail (Paroled)
	Park Geun-hye (Former South Korean president)	Bribery, power abuse	20 years in jail (Pardoned), fined 18 billion won
October 2021	Lee Jae-yong	Painkiller abuse	Fine of 70 million won
2022	Lee Jae-yong	Stock price manipulation, accounting fraud	Pending

*Suspended and pardoned **Cleared

Source: Nikkei Asia research



Chaebol	Year	Event
SK	2013	SK chairman Chey Tae-won is convicted of embezzlement.
	2015	Tae-won is pardoned by the South Korean government.
	2016	He is reinstated as chaebol Chair.
Hanjin	2014	Heiress of Hanjin, Cho Hyun-ah, gains notoriety for the "nut rage" incident.
	2015	She receives a one year prison sentence for obstructing aviation safety.
	2017	An appeals court suspends her sentence.
	2018	Hyun-ah returns as senior executive at KAL Hotel Network.
Lotte	2018	Lotte heir, Shin Dong-bin, is sentenced for bribery and embezzlement. He is freed from jail seven months later and reappointed to the board of the group's key affiliates.
Hyundai	2007	The Chairman of Hyundai Motor, Chung Mong-koo, is convicted for embezzlement.
	2008	He receives a full presidential pardon and resumes his duty at the helm of Hyundai.

Source: Nikkey Asia research and MSCI

Elected in May 2017, President Moon Jae-in came into power with a mandate to sever the government-chaebol nexus and crack down on corruption. He vowed to end the practice of pardoning convicted executives, raised the minimum wage, and modestly boosted the corporate tax rate from 22 to 25 percent. However, his ability to enact reforms was undermined by his party's lack of a majority in parliament, where chaebol hold sway over many members. Some government economists have suggested other policy changes, including tougher antitrust laws, a ban on all cross-shareholding among subsidiaries, and greater voice to minority shareholders, to finally break the dominance of the chaebol.

Although something seemed changing following the conviction of a member of the Samsung family, Lee Jae-yong, in the end we can conclude that Moon-Jae In's administration was not able to significantly dent the privileges of chaebols.

Criticisers say chaebols (and chaebols' main shareholder) are still enjoying indulgent legal treatment in return for sustaining the South Korean economy. Since conglomerates represent the largest employers in the country, this element continues to prevent the government from taking a stronger stance on governance reforms. An



example of this preferential approach has been identified in Lee Jae-yong parole, after serving 19 months of a 30-month sentence in the Park bribery case. The Blue House, the executive office of South Korea's president, said that the government paroled him "*in the nation's interest*". This decision ignited controversy, since Lee's release in August was followed by the announcement two weeks later of a plan by Samsung to invest approx. 200 billion USD in the country and to hire 40k new employees over three years.

During the recent presidential election, the two candidates have barely talked about the chaebol reform during their respective campaigns, while this reform was one of the key issues during previous elections. At the moment, there are still no clear indications as to how the newly elected Yoon Seok-young intends to concretely address this issue.

It must be said, however, that in spite of the governance issues related to chaebols reforms (curbing competition, effective board independence, generational succession, ...), in recent years, Korean authorities have taken multiple steps to protect the rights of minority shareholders and to improve corporate governance, narrowing the gap that characterised the country until a few years ago.

The main elements of positive change can be identified in the revisions to the Commercial Act in December 2020 (a mandatory electronic and cumulative voting system for large public companies, and separate election of directors who become audit committee members). Other positive changes regard the recent legislation changes that prohibit poison pills, require super majority board authorization for related party transactions.

Improvement plan for corporate disclosure system

The regulator recently approved a plan to extend the governance disclosure requirement for large-capitalisation companies to mid-caps (1 trillion assets or more, approx. 790 mln USD). By 2026 this requirement will be extended to all listed companies.

Expansion of Companies Subject to Mandatory Disclosure of Corporate Governance Report

	2019	January 14, 2021	2022	2024	2026
Financial Service Commission	Requirement of mandatory disclosure of "corporate governance report" for listed companies with assets of KRW 2 trillion or more	Announced 'Comprehensive Improvement Plan for Corporate Disclosure System'	Requirement of mandatory disclosure of "corporate governance report" for listed companies with assets of KRW 1 trillion or more	Requirement of mandatory disclosure of "corporate governance report" for listed companies with assets of KRW 500 billion or more	Requirement of mandatory to all companies listed on the stock market (KOSPI Market)
Financial Supervisory Service					
Korea Exchange (KRX)					

Source: NicheAM

Here below we present the 15 key indicator of corporate governance and required compliance status to be disclosed in the company's corporate governance reports.

- 1) Announcement of general meeting of shareholders 4 weeks prior to the meeting
- 2) Conduct electronic voting
- 3) Hold a general meeting of shareholders on a date other than the concentration date
- 4) Notify shareholders of dividend policy and dividend implementation plan at least once a year
- 5) Establishment and operation of CEO succession policy (including emergency appointment policy)
- 6) Establishment and operation of internal control policy (risk management, compliance management, internal accounting management, and disclosure information management)
- 7) Separation of the chairman of the board of directors from the representative directors (CEO)
- 8) Adoption of cumulative voting system
- 9) Whether a policy is established to prevent the appointment of an executive of an officer who is responsible for damaging corporate value or infringing shareholder rights
- 10) Absence of an outside director who has served for more than 6 years
- 11) Provide training to the internal audit organization at least once a year
- 12) Establishment of an independent internal audit department (internal audit support organization)
- 13) The presence of accounting or finance experts in the internal audit organization
- 14) The internal audit organization and external auditor hold a meeting at least once a quarter without management attending

In the section 'Significant room for engagement', we will focus on possible points of engagement with Korean companies, highlighting critical elements not yet addressed by the regulatory framework.



However, as already pointed out, although Korea is still identified as a country with poor corporate governance, the situation has in fact improved significantly in the last few years and it will improve further. For example, regarding additional significant improvement ahead, it should be noted that to ensure the diversity of board of directors, companies which total assets is over KRW 2 trillion or more is prohibited to have a board of directors composed entirely of one gender from beginning of August 2022.

- *Activism*

Another element that supports the growth and development of the Korean capital markets is the Korea Stewardship Code, the *“Principles on the Stewardship Responsibilities of Institutional Investors”*.

The code, which was published in December 2016, sets forth seven detailed principles and guidelines that institutional investors should follow to fulfil their fiduciary duties:

- **Principle 1** – Institutional investors, as a steward of assets entrusted by their clients, beneficiaries, etc., to take care of and manage, should formulate and publicly disclose a clear policy to faithfully implement their responsibilities
- **Principle 2** – Institutional investors should formulate and publicly disclose an effective and clear policy as to how to resolve actual or potential problems arising from conflicts of interest in the course of their stewardship activities.
- **Principle 3** – Institutional investors should regularly monitor investee companies in order to enhance investee companies’ mid- to long-term value and thereby protect and raise their investment value.
- **Principle 4** – While institutional investors should aim to form a consensus with investee companies, where necessary, they should formulate internal guidelines on the timeline, procedures, and methods for stewardship activities.
- **Principle 5** – Institutional investors should formulate and publicly disclose a voting policy that includes guidelines, procedures, and detailed standards for exercising votes in a faithful manner, and publicly disclose voting records and the reasons for each vote so as to allow the verification of the appropriateness of their voting activities.
- **Principle 6** – Institutional investors should regularly report their voting and stewardship activities to their clients or beneficiaries.



- **Principle 7** – Institutional investors should have the capabilities and expertise required to implement stewardship responsibilities in an active and effective manner.

The National Pension Service (NPS), the largest institutional investor in Korea and the world's third largest public pension fund (approx. 600 bln AUM), was the first to adopt the code in 2018. Then other pension funds adopted the code in 2019/2020: the Teachers' Pension (TP) and the Government Employees Pension Service (GEPS). Now, 190 other institutional investors embraced it, including 57 asset managers.

Korea Stewardship Code participants as of May 2022



Total	Pension fund	Insurance company	Asset manager	PEF	Securities firm	Investment advisor	Service firm	Bank	Other
190	4	5	57	58	5	3	4	2	52

Source: <http://sc.cqs.or.kr/eng/participation/investors.jsp>

Although shareholder activism campaigns were already underway prior to the publication of the Korea Stewardship Code, the increasing code adoption by institutional investors has bolstered the investors engagement with companies, with an increasing number of domestic and overseas activist investors seeking to influence the management of large Korean conglomerates. This has created and will create greater demand for improved corporate governance, business and financial structures and shareholder returns.

NPS has announced that it's considering streamlining the process for launching legal action against portfolio companies. Some critics have so far only pointed out the element of uncertainty arising from the role of NPS, that being almost a government agency may damage the autonomy of listed companies, guiding them towards objectives more in line with its political agenda than for pension fund subscribers. But at present there is no concrete evidence to suggest this possible real distortion of the



system, also considering the NPS decision to turn to offshore investments, moving away from an overweight position in the domestic market.

- *Dividends growth*

South Korea Chaebols have a history of stockpiling cash to drive future growth in capital intensive industries and increase their families' power over the society.

To combat this reluctance to distribute cash to shareholders, the government introduced the "Corporate Accumulated Earning Tax" in late 2014. This measure is designed to penalise companies who don't distribute or reinvest at least 60% of net profits. The reaction though was disappointing. One of the largest Chaebols responded announcing an over-priced land purchase as an alternative to raise the dividend or pay an extra tax. However, government needs cash circulating, and the National Pension Service (NPS) needs equity rerating to balance the diminishing bond yield. Government policies and NPS and shareholders pressure may act to revive Chaebol distribution policies. Even if this does not occur, the Chaebols will eventually have to increase the cash return to meet the sizable inheritance tax liabilities.

According to the latest data provided by Korea Exchange (KRX), in 2021 the total dividend amount was KRW 26.2 trillion and the average dividend amount surged 30.5% from a year earlier. This increase, calculated net of particularly large non-recurring dividends, reflects the growth in profits of the companies in the Kospi index, rather than a significant increase in the payout ratio. In fact, the graph below shows that the payout of the Korean index is around 35%, at levels that could be significantly increased given the capital strength of the corporate world, historically very prudent in terms of financial management (courtesy of the Asian crisis).

South Korea - Trend of average dividend pay-out ratio

	2017	2018	2019	2020	2021
Pay-out ratio	33.8%	34.9%	41.3%	39.6%	35.4%

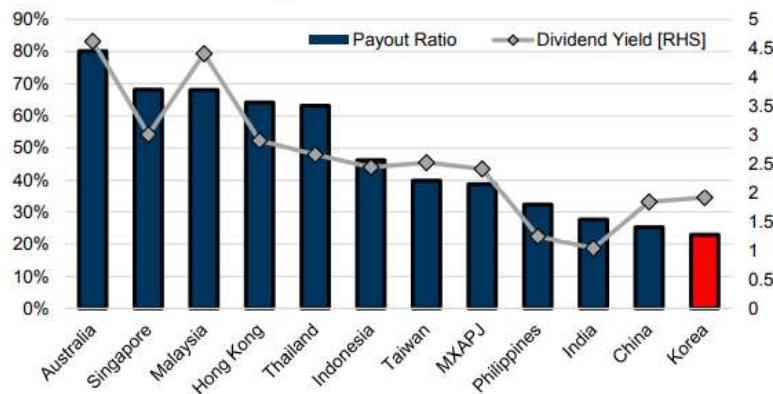
* Cash dividend/net income based on individual/separate financial statements x 100 (excluding corporations with negative or over 200% pay-out ratios)

Source: KRX



The current payout level, and consequently its dividend yield, continues to be well below that of the Asian reference area, as can be seen in the graph below.

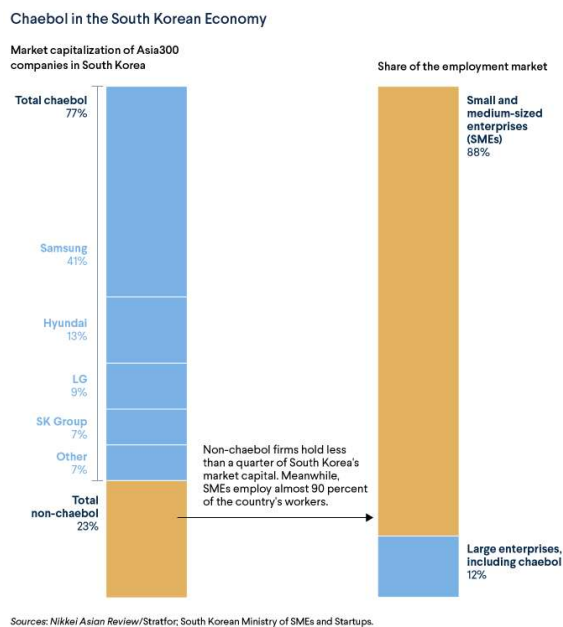
MSCI Asia Pacific - Payout ratio and Dividend Yield



Source: Factset, MSCI

- *Leading globally in many vital sectors*

Figure 31: Chaebol, % of market cap & share of the employment market



Thanks to huge R&D investments Korea has become a leader in many of the technologies that will dominate the future. Korea will launch the first 5G network. It is a leader in EV batteries (Samsung SDI, SK Innovation, LG Chemical, Ecopro, Soulbrain among many others) in energy storage, in ICT, in semiconductors (Samsung, Hynix) in robotics (Hyundai, LG Electronics), in Oled and MicroLed, autonomous vehicles, AI, VR, AR.

Korea is more and more a name for reliability and trust. This positioning holds hopes that the next few years growth will higher than expected.

Figure 32: 2018, Winter Olympics, technology demonstration



- *Inclusion in the MSCI DM Index*

While the FTSE and S&P global indexes already include Korea in the index of developed group, the MSCI only includes Korea in the index of emerging markets.

FTSE Market Classification

Developed	Advanced Emerging	Secondary Emerging
Australia	Brazil	Chile
Austria	Czech Republic	China*
Belgium/Luxembourg	Greece	Colombia
Canada	Hungary	Egypt
Denmark	Malaysia	India
Finland	Mexico	Indonesia
France	South Africa	Kuwait
Germany	Taiwan	Pakistan
Ireland	Thailand	Philippines
Hong Kong	Turkey	Qatar
Israel		Romania
Italy		Saudi Arabia
Japan		UAE
Netherlands		
New Zealand		
Norway		
Poland		
Portugal		
Singapore		
South Korea		
Spain		
Sweden		
Switzerland		
UK		
USA		

MSCI Market Classification

MSCI WORLD INDEX			MSCI EMERGING MARKETS INDEX		
DEVELOPED MARKETS			EMERGING MARKETS		
Americas	Europe & Middle East	Pacific	Americas	Europe, Middle East & Africa	Asia
Canada	Austria	Australia	Brazil	Czech Republic	China
United States	Belgium	Hong Kong	Chile	Egypt	India
	Denmark	Japan	Colombia	Greece	Indonesia
	Finland	New Zealand	Mexico	Hungary	Korea
	France	Singapore	Peru	Kuwait	Malaysia
	Germany			Poland	Philippines
	Ireland			Qatar	Taiwan
	Israel			Saudi Arabia	Thailand
	Italy			South Africa	
	Netherlands			Turkey	
	Norway			United Arab Emirates	
	Portugal				
	Spain				
	Sweden				
	Switzerland				
	United Kingdom				

Source: FTSE, MSCI

South Korea was added to the MSCI since 1992 and it was placed on the watch list for inclusion in the MSCI developed markets in 2008. However, every year Korea failed to meet the standards required to move into Developed market cluster.

In 2014, MSCI decided to remove the country from its promotion watch list, citing the limited convertibility of the Korean Won as the main issue. The Korean government has not yet opened an offshore market due to Asian financial crisis shock occurred in



1995. The lack of offshore currency market makes it impossible to exchange the currency on a 24-hour basis.

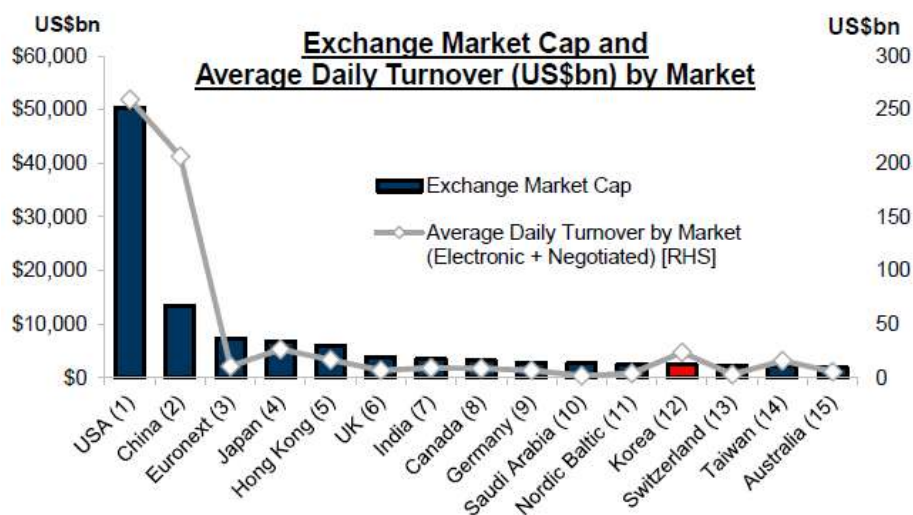
Among other things, MSCI also mentioned the following negative points:

- Information disclosure in English has improved but is not always readily available for all companies. In addition, Korean companies disclose dividend amounts after the ex-date of the dividends, which is different from international standards.
- The registration system for foreign investors: registration is mandatory and requires a significant amount of supporting paperwork.

An upgrade to developed market status could be achieved by making some adjustments to existing systems. As already highlighted, the main issue is represented by the lack of won offshore market, however it must be noted that USD/KRW pair is the world's 10th largest in terms of trading value. Actually, this means that there are no real restrictions on trading of the Korean won, nor there are restrictions on forex transactions for equity trading.

The size and the liquidity of the Korean Equity market is in line with Development Market standards. For what concerns the average daily turnover, Korean market presents a high figure compared to market cap.

Exchange Market Cap and Average Daily Turnover (US\$bn) by market



Source: WFE, GS



According to some analysts, the move from emerging to upgrading could result in an inflow to the Korean market from foreign investors of more than USD 44 bln (approx. 2% of market capitalization). This is, of course, only the immediate “technical” factor related to the rebalancing of world stock indices. The most significant effect would obviously come from the reduction of the large Korea discount currently embedded in market prices and also a consequent reduction in market volatility.



2ND SCENARIO: GERMAN-STYLE REUNIFICATION

A favorable sentiment to the reunification



In 1969, South Korea established a Ministry of National Unification. This minister “establishes and implements long-term policies for national unification”, as well as “coordinates inter-Korean dialogue and public education sources on reunification”.

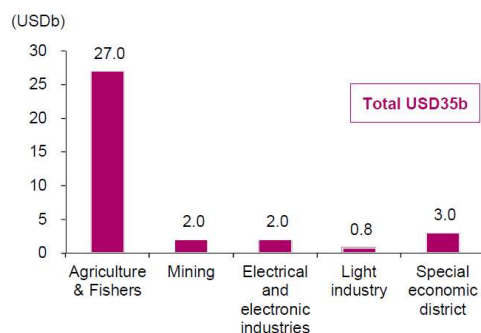
The sentiment is very favorable: more than 70% of South Koreans support the reunification (Survey released by the unification ministry – Nov. 2014).

The reunification is a more palpable goal for older South Koreans, who experienced their country being divided by the former Soviet Union and the USA

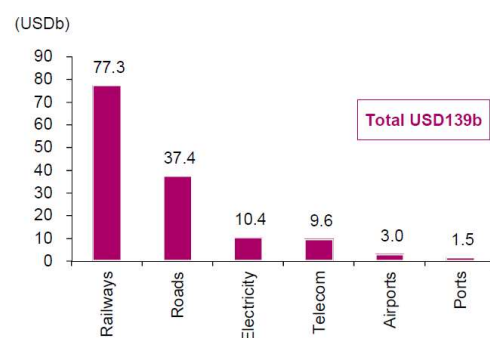
The country has prepared for long

According to the South Korea’s Financial Services Commission (FSC), the modernization of North Korea would need 500 bln US\$ over the next 20 years * (mainly energy and transportation infrastructures) while other 500 bln US\$ should go to subsidies, mainly for social services.

Figure 33: Breakdown of capex Infrastructure e Figure 34: Breakdown of capex for industrial development



Source: FSC



Source: FSC



The cost of the reunification could be bearable

According to the FSC, reviving the North Korean economy should not burden the South-Korean population.

Most of the investment could be financed by:

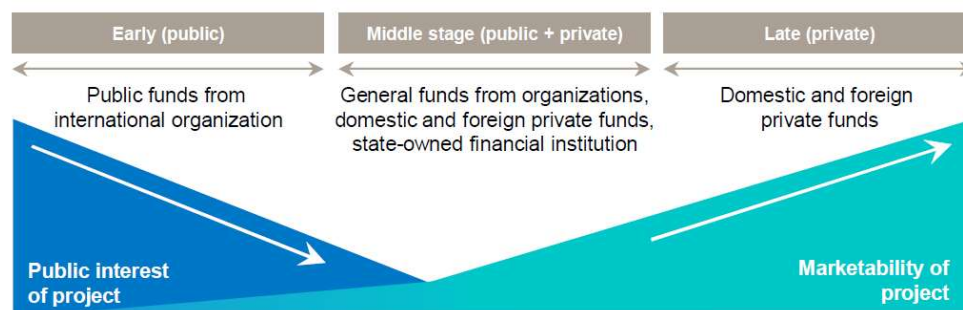
- domestic finance institutions = state-run banks (Korea Development Bank and Korea Exim Bank)
- South Korean and oversea private funds
- tax revenues from North Korea as the GDP starts to grow
- The savings in military expense (est. 200 bln usd in 20 years) and the huge mineral resources in the North (est at north of 3 trillion USD) should in the long run offset the cost of the reunification.

The public should only play a relevant role in the first phase, when the environment for private investment isn't yet favorable. South Korea gross public debt/GDP ratio is 40%, one of the lowest in the world.

Public debt is low, but the South Korean household debt is high: 1,86 trillion US\$ at the end in 2021 (about 104.9% of nominal GDP, like that of USA, UK and Canada but well below that of Netherlands, Switzerland or Australia).

Prevalent role by the private sector, however not in the first phase

Figure 35: distribution of the project's financing sources over the long period

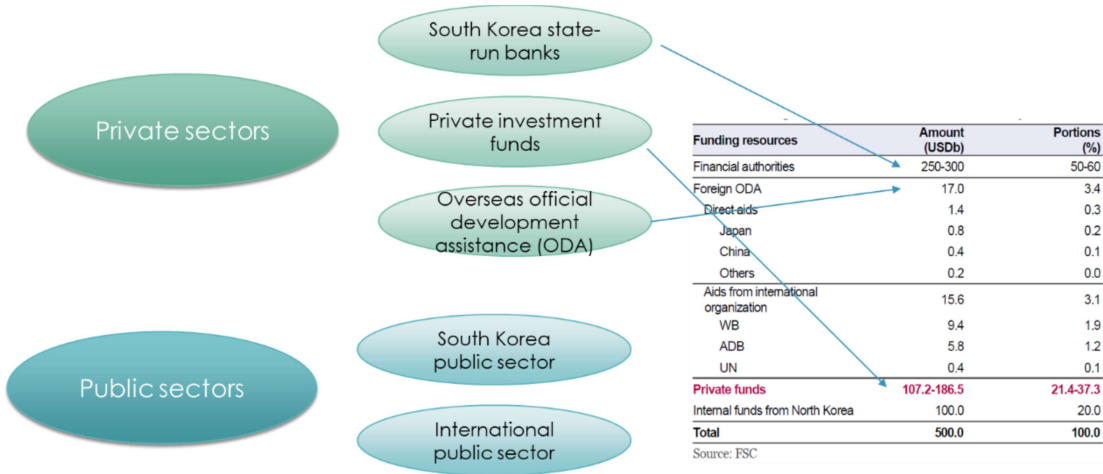


Source: FSC



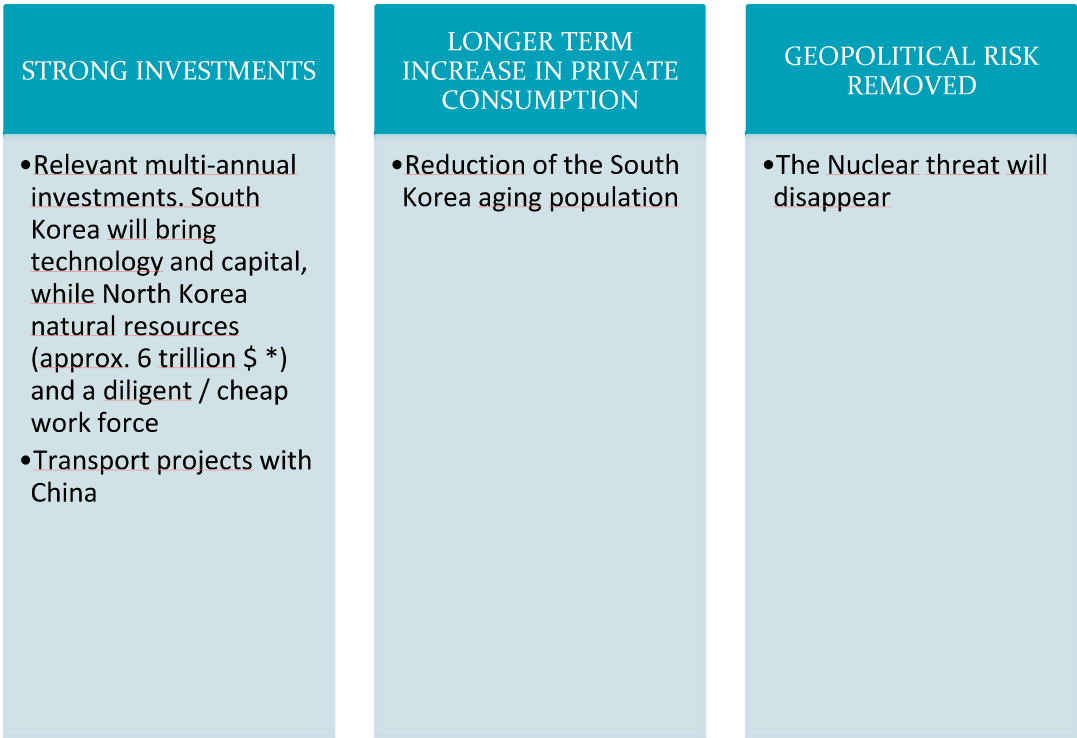
Funding scenario according to the FSC

Figure 36: funding scenario



Opportunities from a straight reunification

Figure 37: opportunities from the reunification



*Source: Korea Resources (SK state-owned mining company)



North Korea can count on several natural resource (high-quality coal, iron ore, gold, zinc,) and also has the second-largest rare earth reserves in the world after China.

Figure 38: North Korean natural resources

Resource	Reference grade	Unit	Reserves	Relative to global reserves (%)*
Gold	Metal	Tonnes	698	1.29
Silver	Metal	Tonnes	6,356	1.12
Iron ore	Fe 63.5%	Bil tonnes	2.47	1.45
Zinc	Metal	Thou tonnes	27,425	11.92
Copper	Metal	Thou tonnes	4,235	0.54
Manganese	Metal	Thou tonnes	2,989	0.44
Nickel	Metal	Tonnes	147,638	0.20
Magnesite	Ore	Bil tonnes	1.5	19.23
Limestone	Ore	Bil tonnes	4.4	n/a
Lignite	Mixed	Bil tonnes	17.9	5.54
Hard coal	Mixed	Bil tonnes	4.1	0.50

Note: I-RENK, NKRI, USGS, BP, Samsung estimates



Risks from a straight reunification

COSTS

- upfront and medium/long term costs higher than planned

CULTURAL GAP

- big gaps in the culture and also in terms of the ideology leading to social tensions

GEOPOLITICAL

- The neighboring powers (esp. China) are unlikely to stand by and welcome a unified Korea with open arms, unless Korean confederation would reduce its ties to the USA
- The merger of the two militaries won't be easy
- refugee crisis due to a mass immigration



3RD SCENARIO: THE ADOPTION OF A MARKET ECONOMY

Market economy adoption



This is the path undergone successfully by China and Vietnam: the progressive adoption of the market economy, though maintaining a strong State grip.

Compare to a straight reunification scenario, this scenario would imply:

- a) positive economic effects spread across a longer time period

It would take time to create the conditions for a complete shift to market economy, thus the beneficial impact will be felt on an extended period

- b) reducing the economic and political risks
 - the downside risks on the massive upfront costs will disappear
 - mass immigration risk would be strongly reduced
 - no cultural clash
 - the normalization of inter-Korea relations will reduce in any case the risk premium of South Korea
- a) lower market volatility

compared to a full-on reunification this scenario is more market-wise as it limits the speculation, spreading the benefits over a long period of time.

The cost will still be massive but more spread over time and borne not just by South Korea but also by China and the West, on top of many supranational institutions. Here the most credible estimates (FSC and BOK) indicate about 400 bln USD in infrastructure investments and 200 bln USD in subsidies over 20 years.



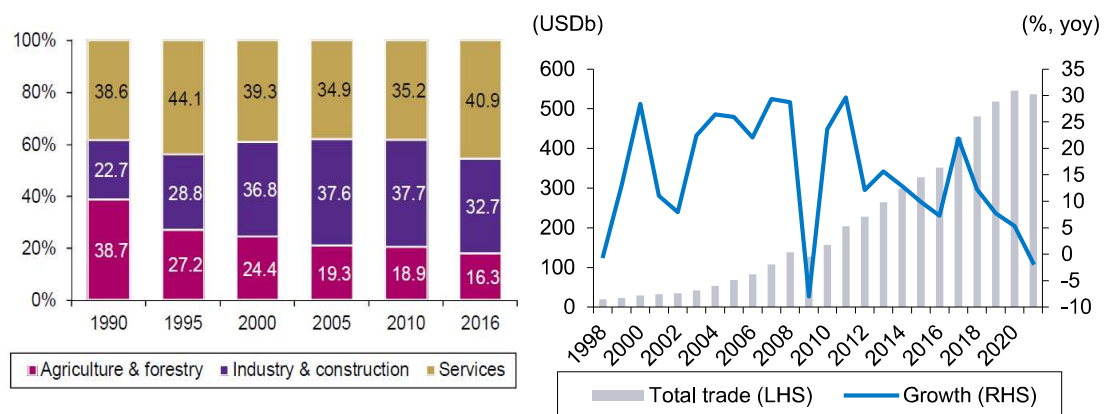
VIETNAM CASE: DOI MOI REVOLUTION AND TRANSITION TO A MARKET ECONOMY

- Promote multi-sector economic system (phase 1) 1986-1991
- Lay foundation for market economy (phase 2) 1992-2005
- Establish market economy (phase 3) 2006-2010

The Vietnam case: Industry shift and total trade growth

Thanks to Doi Moi, Vietnam's GDP expand at a CAGR of 7.2% over 1990-2007, which outpaced North Korea and positioned the nation as a new economic power in Asia. Vietnam's nominal GDP hit USD205.3b in 2016, 32x larger than the 1990 figure of USD6.5b, while over 1990-2016, the combined portion in GDP from its manufacturing and construction sectors climbed from 23% to 33%, with its volumes of exports and imports leaping a respective 79x and 70x over the same period as foreign direct investment surged 70x.

Figure 39: Vietnam: GDP portion by industry & Figure 40: Vietnam total trade



Source: World Bank, Bloomberg

While many are the similarities of Vietnam and China with North Korea, there are also some differences:



- **After 65 years of *juche* (North Korean self-reliance ideology) the entrepreneurship in North Korea is much less than it was in Vietnam in the 80s, where collectivisation lasted just ten years**

In Vietnam's south, its economic heartland, collectivisation of farms and factories lasted just ten years before private ownership was restored. People who had previously run businesses were able to get quickly back in the game. After 65 years of *juche*, the national ideology of self-reliance, North Koreans are starting from scratch. The growth of informal food and goods markets in recent years shows some entrepreneurship, but the learning curve for big firms will be much steeper.

- **Urbanization was a powerful factor in the development of Vietnam and China but in North Korea 60% of the population already live in the cities**

The structure of North Korea's economy also complicates matters. More than 70% of the workforce in both Vietnam in the mid-1980s and China in the late 1970s (when its economic reforms started) was in agriculture. Simple changes to incentives—letting farmers profit from the sale of their own crops, for example—led to a surge of agricultural productivity. And the exodus of workers from farms generated a pool of cheap labour for factories, fuelling the rise of export industries.

By contrast, more than 60% of North Korea's population already live in cities. For big productivity gains, the government will need to overhaul moribund industries. In that respect North Korea resembles eastern Europe after the Soviet Union's demise, says Marcus Noland of the Peterson Institute for International Economics, a think-tank in Washington. "There will be losers," he says. Unemployment might soar. Privatisation could increase already-rampant corruption even further.

- **North Korea has in the past attracted foreign investments that were later seized: this limits the new investments flows**

Sitting between China, South Korea and Japan, North Korea should find it easy to attract capital to create jobs. But its record for foreign investors is poor: it seized South Korean assets at their showpiece joint industrial park in 2016 when relations deteriorated.



- **North Korea population median age is already 34 while in Vietnam and China it was about 20 when the process started, and this can limit the growth trajectory**

Another weakness for North Korea is demography. When Vietnam and China embarked on reforms, they were both young countries, with median ages of about 20. They had many workers and few elderly dependent on them. In North Korea, the median age is already 34, making it even older than Vietnam today. As China ages, officials worry that it will get old before it gets rich. In North Korea the risk is that it will get old while it is still impoverished. All the more reason for Mr Kim to get cracking on economic reform.

GERMAN REUNIFICATION

What happened to the German Index (DAX) after the fall of the Berlin Wall?

The Berlin Wall fell in November 1989. The DAX index rose c.30% during the period from November 1989 to May 1990 when the West and East Germany reached an agreement re-monetary, economic, and social union.

Once the agreement has been reached, the German equity market went down till October 1990 when the official reunification took place.

Figure 41: DAX between Q1 1989 and Q1 1991

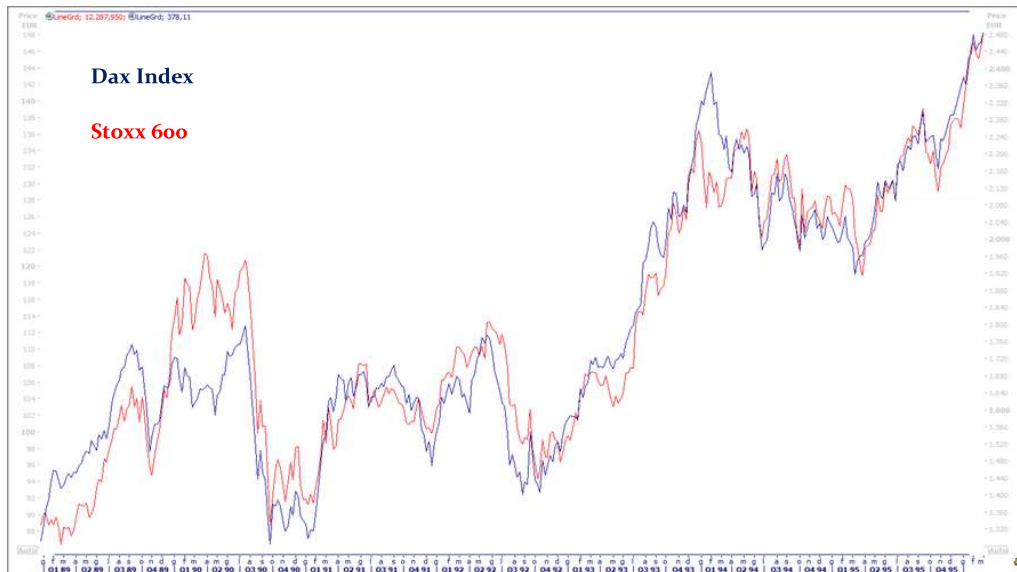


The Dax did not benefit nor was it held back by the reunification, as many were the mistakes made that weighted on the growth of the new Germany.

Capital market different readings to market reunification: source of huge market volatility

Potential advantages	Potential disadvantages
Initial Euphoria	Political Instability
Future Acquisitions	Timing of Privatization
Access to Other European Markets	East German companies ability to survive
Subsidies to foreign investors	East German productivity
Instantaneous leap from socialist to market-based economy	Financing of potential reunification
Infrastructural opportunities	West German economic uncertainty

Figure 42: DAX vs Stoxx Europe 600 (Q1 1989-Q4 1995)



The German unification was a totally new experiment, many were the unforeseen problems and the mistakes made

On July 1, 1990, the economies of the two Germanys became one.

Figure 43: fall of the wall in Berlin, 9th November 1989



It was the first time in history that a capitalist and a socialist economy had suddenly become one, and there were no precise guidelines on how it could be done. Instead, there were a number of problems, of which the most severe were the comparatively poor productivity of the former East German economy and its links to the collapsing socialist economies of the Soviet Union and Eastern Europe. As economic unification proceeded, issues that had been recognized but inadequately understood in advance began to surface.

Property rights confusion scared off potential investors

There was confusion about property rights. As wave after wave of Nazi, Soviet, and later GDR expropriations had taken place between 1933 and 1989, there was often little knowledge of the actual ownership of property. More than 2 million claims on properties in the territory of the former GDR were filed by the December 31, 1992, deadline. As more claimants emerged, with many winning cases in the courts, potential investors were often scared off.

Exchange rate was set for political and technical reasons too high and wage inflation ran fast, hindering the competitiveness of East Germany

Another problem was that East German production costs had been very high. The conversion rates of East German marks to deutsche marks often kept those costs high, as did the early wage negotiations, which resulted in wages far above the productivity level. Western German firms found it easier and cheaper to serve their new eastern German markets by expanding production in western facilities. The one-to-one currency conversion adopted upon reunification had made the relative hourly wages jump from 7% to 30% of the western level, because the exchange rate at which East Germany had been able to trade successfully with the west was 4.3 to one. Contrary to the often-voiced assertion that this was the reason for East Germany's problems, the one-to-one currency conversion was unavoidable, given that relative prices for food and other consumer goods were much lower than in the west, implying that the purchasing value of an East German mark was about the same as that of the deutschmark. Anything below the one-to-one currency conversion would have reduced the real income of East German citizens and would have provoked a revolt. At a wage of 30% of the west's, the East German economy would surely have been able to attract much business investment from all over the world, given that east Germans were very well trained in

technical professions and now shared the same legal system and offered the same security as West Germany.

However, the proxy wage negotiations made wages increase to much higher levels. As the chart at page 45 shows, wages always grew faster than aggregate productivity in the private sector, eventually reaching 78% of the western level, while productivity stalled at 62%. It is no surprise that international investors, who were champing at the bit, revised their investment plans in view of this reality, deciding eventually not to come. Sony, for one, chose to vacate its planned European headquarters at Potsdamer Platz in Berlin.

That's just the way it is. Investments fuel wage rises, because they increase the demand for labor, but wages cannot run ahead of investment, since investors will then fail to come. It is like revolving doors at the airport: you can only cross them at a moderate pace – if you rush, they will stop.

The German government tried to avert the disaster by instituting massive tax relief to counter the devastating effects of the wage rush. The tax subsidies often exceeded 100% of the capital costs set by the market, thus pushing the effective capital costs into negative territory (see Sinn 1995, 2002). This spurred investment in capital-intensive companies and property but created only a few jobs.

In the end, three-fourths of the industrial jobs in the former East Germany were lost. While 4.08 million people were employed in manufacturing in East Germany at the time of its demise, only 920,000 are employed there today. It is true that many jobs were created in construction and services, but these are areas safe from international competition. Despite mass emigration and early retirement, the unemployment rate in the new federal states (including Berlin) today is twice that of West Germany.

Infrastructure took too long to be upgraded, holding back investors

A third problem was that the inadequate infrastructure also became a problem for many potential investors. Telephone service was improved only very slowly. Many investors also complained about energy shortages, as many East German power stations were shut down for safety and other reasons. Roads and railroads had to be virtually rebuilt because they had been so badly maintained.

Slow introduction to a market economy

In addition to these practical problems, there was also a deep policy dilemma that underlays the entire process of unification. From the beginning, there had been a pernicious link between the earlier and later phases of the East German transition to a free-market economy. Policies calculated to make the initial adjustment as painless as possible hampered long-run growth and prosperity. Real economic efficiency could only be achieved by permitting and even forcing considerable immediate dislocations, whereas temporary compromises might lead to permanent structural burdens. However, excessive disruptions could jeopardize the economic and political stability required for a smooth unification process and might also cause streams of East Germans to move west. The government was never able to solve this dilemma. When it was forced to choose, it usually selected the more expensive and slower course to encourage persons to stay in the east.

Overhasty adjustment of wages to prevent disruption hampered long-term growth

What lies behind the stall in economic convergence it is the overhasty adjustment of wages decided to avoid disruption. The adjustment occurred because West German employers' associations and labour unions alike set up branch offices in the east which, even before the firms entrusted to the Treuhandanstalt (the agency charged with restructuring and selling of East German state-owned companies) were privatised, conducted long-term wage bargaining on behalf of their East Germans peers. The employers' associations, receiving their clues from the West, demanded an equalisation of wages in order to protect their own jobs in the west by preventing international investors from acquiring East German companies and competing against West German companies with new processes and products at lower wages. 'If the Japanese want to come', the sotto-voce argument went, 'let them at least pay West German wages'. As the chart shows, the effect of this wage bargaining-by-proxy was that hourly wages rose significantly faster than overall productivity in terms of GDP per capita. This was expected and observed early on (see Sinn and Sinn 1991, 2003). The Social Union agreed in the summer of 1990 between West and East Germany, and later anchored in the Reunification Treaty, cushioned the consequences of massive unemployment through social transfers. However, the social transfers themselves created further unemployment, since their nature as replacement income in effect set a floor for the wages below which, understandably, East Germans were not willing to work. The artificially inflated wages that originally had resulted



from the bargaining-by-proxy became thus permanent. Seen in this way, the social transfers managed to create a stagnating equilibrium that still today fails to exploit the potential inherent in a well-functioning market economy. East Germany squandered thus the head start it had over the other ex-Comecon countries upon joining the EU. Since the other countries joined the EU only in 2005, East Germany could have taken advantage of joining a 300-million-consumer market 15 years ahead of the rest. With a low-wage strategy coupled with property rights to the assets of the formerly communist state, as we called for at the time in our book “Kaltstart” (see Sinn and Sinn 1991). An economic miracle similar to Ireland’s could have come about, with new products and new companies conquering the markets. Fresh investment would have flowed to East Germany, spurring labour demand. In this way, the labour unions could eventually have pushed through permanently higher wages without reducing competitiveness – probably even higher wages than prevail today.

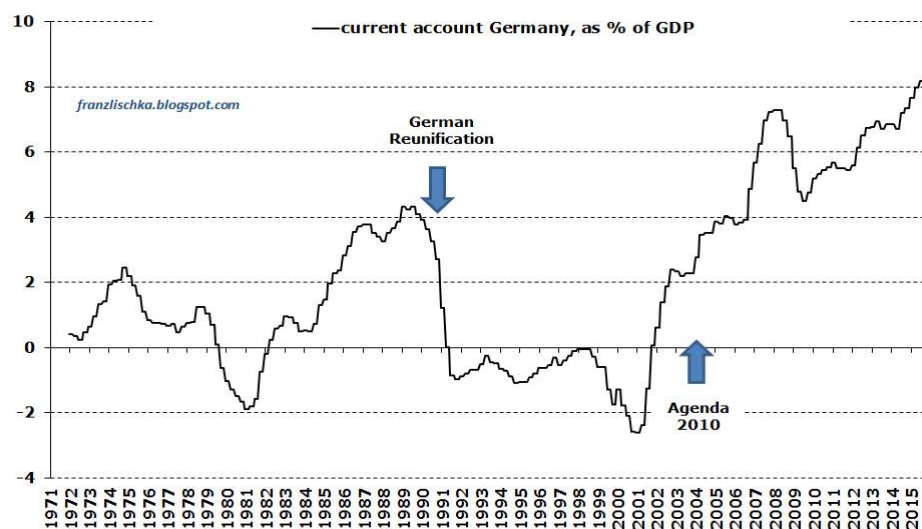
The argument that the wage strategy chosen was the best one to forestall mass emigration to the western part of the country was not convincing. It would have been better to let the new federal citizens work in the West than financing their forced unemployment in the East. In view of the recent announcement by German Chancellor Angela Merkel that Germany is in a position to integrate more than a million migrants from less-developed countries into the labour market, with hindsight the old argument appears outlandish. It is also worth bearing in mind that, as mentioned previously, a net total of 1.64 million East Germans did move to the western part of the country anyway. Had wages not been made to converge artificially, many more jobs would probably have been created in East Germany, and migration would have perhaps been lower.

To correct the devastating effect the social replacement incomes had on wages, the Agenda 2010 reforms introduced by former Chancellor Gerhard Schröder in 2003 eliminated Germany’s second-tier unemployment benefit system, replacing it with a basic social assistance coupled with wage subsidies, the so-called Unemployment Benefit II. This induced a turnaround in the German labor market at large by allowing for the emergence of low-wage jobs. However, as effective as the Agenda 2010 turned out to be for the overall German labour market, it came too late for east Germany and could not prevent many national and international investors from skipping the eastern German states and going straight to Poland, Hungary, the Czech Republic or Slovakia to set up new productions sites.



The rapid wage increases, supported by generous welfare benefits, had the effect of inflicting the so-called Dutch disease onto East Germany. When the Netherlands found gas deposits in the 1960s, the income from gas exports pushed up wages in the public sector and the energy industry, stimulating the domestic sector and causing imports to rise, but also undermining the competitiveness of the Dutch export industries, because competition in the labor markets forced these industries to also pay higher wages. It was not until the Wassenaar Agreement of 1982, coupled with a subsequent fall in world energy prices, that wages became more moderate and the economy started to gradually improve.¹ While the eastern German states have exported no gas, the financial transfers from the West played—and still play—the same role, making possible wage growth beyond productivity growth and thus reducing competitiveness and dramatically lowering the current account surplus.

Figure 44: German current account, as GDP %



The Dutch Disease is also in evidence throughout Southern Europe today, with the low-interest loans made possible by the public rescue funds and the ECB guarantees taking the role of Dutch gas or inter-German transfers. Whether an economy receives money from abroad in the form of transfers or proceeds from gas exports or loans makes no difference. In each case the foreign funds make it possible to uphold non-competitive wage structures – in other words, to maintain a living standard that exceeds the level compatible with local productivity. The result is excessive prices and a loss of competitiveness.



Limited opening to foreign investors and low incentives to produce in the East

Whether correct or not, reports persisted throughout the first years of unification that foreign enterprises were being screened more carefully and more sceptically than German firms even as they were being invited to invest. Less than 5 percent of all investment in eastern Germany was non-German, and most of that was from companies with subsidiaries in western Germany who were expanding them to the east. The Japanese did not invest, although they had earlier expressed some interest, and the offices Treuhand established in New York and Tokyo found few investors. As might have been expected, the economy of eastern Germany went into a deep and precipitous slump immediately after unification. Within a year after unification, the number of unemployed rose above 3 million. Industrial production in eastern Germany fell to less than half the previous rate, and the total regional product fell precipitously through 1991. One estimate was that in 1991 the entire production of eastern Germany amounted to less than 8 percent of that of western Germany. Because of these circumstances, private investment and economic growth came to eastern Germany at a relatively slow rate. Little new equity capital flowed in. Investment during the early years of unification was only 1 percent of the all-German GDP, when much more was needed to jump-start the economy of eastern Germany. Much of the investment was for the purchase of eastern German companies, not yet for their rehabilitation. Many western German firms bought eastern firms on a standby basis, making sure they could produce in the east when the time came and paying enough wages to satisfy the Treuhand but not starting production. Many others, including Daimler-Benz, did not even meet the commitments that they had made when they had purchased the eastern German firms from the Treuhand. Thus, western German private investment was not strong enough to boost the eastern German economy. As private funds lagged, and in part because those funds lagged, federal budget investments and expenditures began flowing into eastern Germany at a consistently high rate. Government funds were used essentially for two purposes: infrastructure investment projects (roads, bridges, railroads, and so on), and income maintenance (unemployment compensation, social security, and other social costs). The infrastructure projects sustained employment levels, and the income maintenance programs sustained income. But neither had an early growth payoff. Although the precise level of German official expenditures in eastern Germany has been difficult to estimate because funds appropriated in one year might have been spent in another, it is beyond dispute that the federal government expended well over DM350 billion in eastern



Germany during the first three years after economic, or monetary, unification. After 1992 this requirement has continued at an annual level of around DM150 billion, so that the sum of private and public funds put into eastern Germany during the half-decade between monetary unification in 1990 and the end of 1995 would probably amount to at least DM750 billion and perhaps as much as DM850 billion. Between one-fifth and one-fourth of those funds were private, and the remainder were government funds. This constituted an infusion of outside money of about DM50,000 for every resident of eastern Germany, a far greater level of assistance than contemplated for any other area that had been behind the Iron Curtain and a token of German determination to bring eastern Germany to western levels as quickly as possible.

Excessive rise in interest rates slowed down the economy

The Bundesbank became worried about three elements of the sudden boom:

- the sudden financial shifts between east and west, which led to a jump in money supply;
- government deficits resulting from large expenditures in eastern Germany;
- the potentially inflationary effects of a rapid growth rate in the west.

The bank warned that interest rates would have to remain high to keep price increases under control. The bank raised short-term interest rates sharply through 1991 and 1992, with the average rate of short-term interest climbing from 7.1 percent in 1989 to 8.5 percent in 1990, to 9.2 percent in 1991, and to 9.5 percent in 1992. The Bundesbank permitted rates to begin falling only in 1993—to 7.3 percent—when it believed that the inflationary pressures had been contained by the recessionary effects of the credit squeeze.



Figure 45: German inflation (CPI), discount/short term repo rate, ECB rate, %



As consequence the short term economic benefits were limited

- West Germany went into a brief a small boom followed by a slow down
- East Germany went into a deep recession
- It took Germany 15 years to economically to first digest the unification
- Most of Eastern Germany is still an economically and socially depressed region compared to the Western Germany.

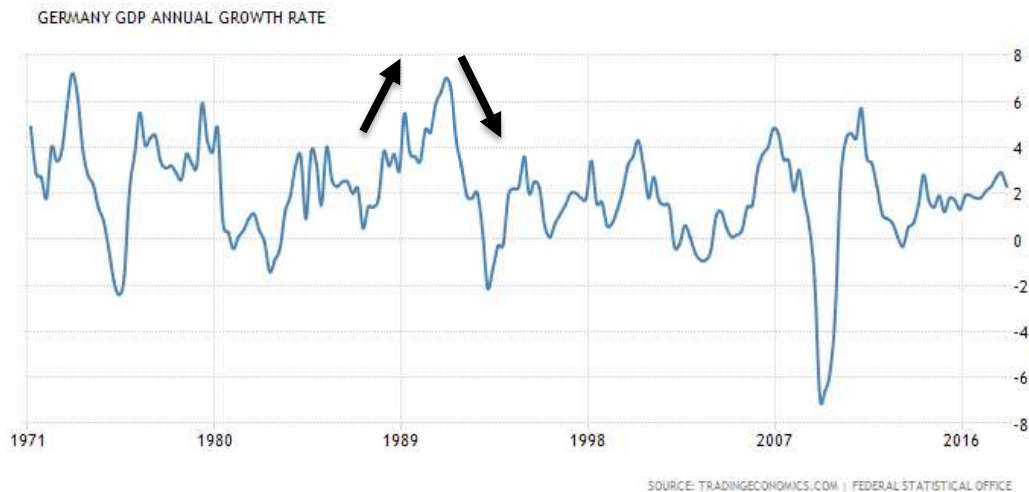
Longer term, the advantages are clearer:

- Huge geopolitical de-risking
- Wealth redistribution
- Future growth opportunities from productivity increase in the East
- Creation of a world superpower



West Germany went into a brief a small boom followed by a slow down

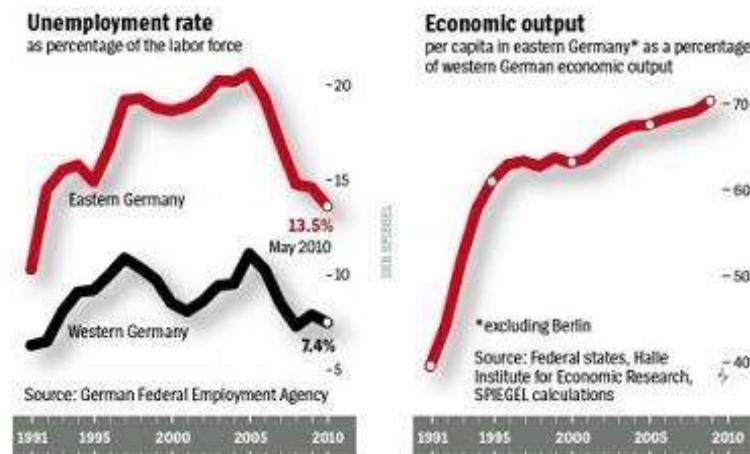
Figure 46: GDP annual growth rate



As eastern Germany went into a deep recession during the first phase of unification, the western German economy went into a small boom. Western German GDP grew at a rate of 4.6 percent for 1990, reflecting the new demand from eastern Germany. The highest growth rate came during the second half of 1990, but growth continued at only a slightly slower pace into early 1991. Prices, however, remained relatively stable because the cost of living grew at only 2.8 percent despite some high wage settlements in some industries. Employment rose during the year, from 28.0 million to 28.7 million, and the unemployment rate sank to 7.2 percent. Notably, the number of registered unemployed in western Germany only declined by about 300,000, showing that at least half of the new jobs in western Germany had been taken by persons who had moved to or were commuting from eastern Germany. The dramatic improvement in the western German figures resulted from the opening in eastern Germany of a large new market of 16 million persons and the simultaneous availability of many new workers from eastern Germany. Many easterners did not want the shoddy goods produced at home, preferring western consumer products and food. Moreover, many easterners were coming to the west to work. By the end of 1990, as many as 250,000 were commuting to work in the west, and that number was estimated to have grown to 350,000 or even 400,000 by the middle of 1991.



Figure 47: unemployment rate and economic per capita output, East Germany as % of West (ex Berlin)



This meant that western Germany not only had a vast new market but also a growth of over 1 percent in its workforce, as sharp an increase as since the days of the economic miracle. It also increased its capital base because eastern German deposits were placed in western German banks that had come east and because those deposits moved back to the central German financial market at Frankfurt. As the Bundesbank's harsh monetary policies began to take hold, growth slowed in western Germany, from 4.2 percent in the first quarter of 1991 to 0.8 percent in the last quarter of 1992. For all of 1992, the western German growth rate was 1.5 percent, a decline from the 3.7 percent rate of 1991 and even more from the 4.6 percent rate of 1990. The eastern German growth rate was 6.1 percent during 1992, well below the 7 percent to 10 percent growth rate originally anticipated for the region. The number of employed in western Germany fell for the first time in ten years, by 89,000. Despite the slowdown, during 1992 the German economy reached a milestone of sorts. With the addition of eastern German production, Germany's GDP rose for the first time above DM3 trillion. Of that total, the new Länder contributed a gross regional product of DM231 billion, or 7.7 percent. However, the total of German unemployed also reached a record number, 4 million. Two-thirds of that number were unemployed in western Germany; the other one-third were unemployed in eastern Germany. Eastern Germany contributed more to unemployment than to production. The 1992 depression continued into 1993, so that the economy actually registered a negative growth rate of -1.2 percent. By 1994, however, after the Bundesbank had been lowering short-term interest rates for over a year, German growth resumed at an annual rate of about 2.4 percent, but unemployment declined only very slowly



despite the uptrend in GDP growth. It was expected that stronger growth would begin reducing the numbers of unemployed by 1995 and that Germany would return to its post-war path toward prosperity. But the absorption of eastern Germany, and the methods by which it had been accomplished, had extracted a high price throughout all of Germany.

Most of eastern Germany has turned into an economically depressed region that lags behind the west in all respects:

The per capita economic output in the east is only at 71 percent of the western level, with a disproportionately high share of economic output attributable to the public sector. The economic output generated by the private economy is only at 66 percent of the western level.

To close the gap, the eastern German economy would have to grow more rapidly than in western Germany, but precisely the opposite is the case

Since the fall of the Berlin Wall, the population of eastern Germany has declined by almost 2 million people, a trend that is continuing unabated.

The proportion of household income derived from welfare payments is 20 percent higher in the east than in the west. Of Germany's 100 largest industrial companies and 100 largest service providers, not one has its headquarters in eastern Germany. "We are firmly convinced that the creative forces of the people that have now been unleashed will lead to a new *Wirtschaftswunder*," then-Chancellor Helmut Kohl proclaimed on June 5, 1990, referring to the "economic miracle" of postwar West Germany. But anyone who travels through eastern Germany today, 25 years later, will encounter failed mega-projects, depopulated downtown areas and many people who haven't had a regular job in two decades.

When East and West Germany reunited, the country was drunk on euphoria and a sense of heightened optimism. While reigning chancellor Helmut Kohl promised "flourishing landscapes", his predecessor Willy Brandt produced the now legendary sentence: "What belongs together, will grow together". But how united is Germany a generation on?

The Berlin Institute for Population and Development concluded in a recent study that half of all Germans believe there are more differences between "Ossis" (easterners) and "Wessis" (westerners) than commonalities.

The report, titled How reunification is going – how far a once-divided Germany has grown together again, found there is now little to distinguish life in the east and west in many regards, but there are still huge differences.

The fact that it was possible to bring the two systems together “is a miracle for which it is hard to find a historical equivalent,” said the institute’s director, Reiner Klingholz.

Dr Reiner Klingholz

“Even if the two parts were only separated for 41 years – that’s less than two generations – the citizens of east and west were socialised in such a different way that in retrospect the idea that integration would be swift was utopian.”

“There is no example of merging two states with such vastly different political systems that has worked so smoothly. But this reunification was, and continues to be, far more difficult to achieve than was thought during the exuberance of the reunification celebrations.

Klingholz estimates that it will take at least another generation before the two parts have truly grown back together. One major piece of evidence for that, he says, is that “many Wessis have never even been to the east,” while most Ossis have been to the west.

[Here is how they compare on key indicators:](#)

Wealth

States in the former west continue to be considerably richer than those in the former east, where ordinary households own far less than half of the wealth accumulated by those in the west. Of the 500 richest Germans, only 21 are in the east and, of those, 14 are in Berlin. Of the 20 most prosperous cities, only one – Jena – is in the east. There are many reasons for the differences, including the fact that wages in the east continue to be lower – at €2,800 (£2,075) a month, people earn about two-thirds of the average wage in the west – and that property in the east is only worth half as much in the west.

Another factor is that while Kohl declared wages and pensions should be translated one to one into West Marks in 1990, savings were only translated at a rate of two East Marks to one West Mark. On top of that, as owning property was generally taboo in East Germany, families have less to pass on to their children.



The net wealth of the average westerner is about €153,200 per person. In eastern households it is not even half that. Indeed, east Germans with net assets of at least €110,000 are considered to belong to the richest 10% of adults; in the west, €240,000 is the minimum.

As cars are the most conspicuous indication of a German's wealth, it is worth noting that a west German is twice as likely to drive a BMW, with an East German twice as likely to drive a Skoda.

Poverty and health

The risk of an east German slipping into poverty is about 25% higher than that of a west German. However, life expectancy has risen considerably in the east since reunification, with women now on a par with their western counterparts. For men, it is slightly lower in the former east.

In terms of health, the concerns are similar, with obesity having increased in the east from between 12%-16% in 1999 to an average of 18% in 2013, and in the west from less than 10%-12% in 1999 to between 14% and 18% in 2013.

Productivity

Productivity in the former east was 70% of that in the west in 1991 and rose to just 73% in 2012, in part a legacy of the number of factories that were bought by west German industrialists and deliberately run into the ground to scotch competition as well as the inefficiency of many companies in the east.

None of the 30 largest companies listed on the German stock market are based in the east. Experts say the fact that most of the large industry and production bases are in the west and that those in the east are far smaller – with most employers in agriculture or service industries like meat-processing and call centres – will have a long-term effect of increasingly holding back the economy in the east and ensuring that the wage discrepancy remains and likely worsens.

While East German cities have all been beautifully renovated and reunification succeeded politically, East German productivity has seen very little progress in the last twenty years. Indeed, the convergence between East and West Germany petered out as early as 1995, with East German GDP not only ceasing to grow faster than West Germany's, but actually falling

behind. While GDP rose by 30% between 1995 and 2015 in the West German federal states, it did so only by 23% in the eastern states.

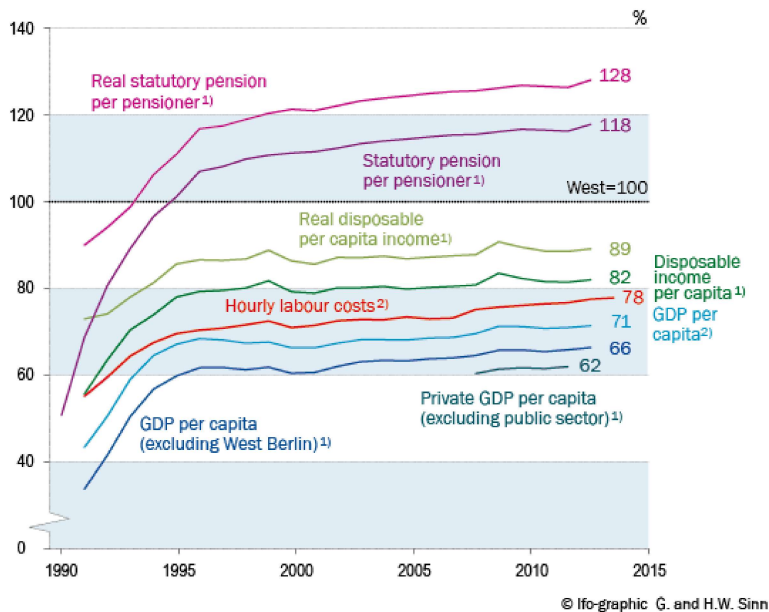
The fact that nominal per capita GDP in the eastern states relative to the western states nevertheless grew from 67% in 1995 to 71% in 2013 is attributable in its entirety to the unequal population dynamics. Over the 19 years from early 1995 to late 2013, a net number of 770,000 East Germans emigrated to the western portion of the country, on top of the 870,000 who had done so in the years before.

The untold truth is that economic convergence has been even worse than the 71% mentioned above suggests, since the GDP of the East German federal states includes the GDP of West Berlin. If account is taken of this effect, by comparing the ex-communist territory with that of former West Germany including West Berlin, eastern per capita GDP for 2013 comes barely to 66% of the western level.

A further point is the artificial inflation of eastern GDP resulting from salary harmonization in the public sector. When only eastern private-sector per capita GDP is considered, the convergence figure is merely 62%.

The lack of productivity convergence contrasts sharply with the convergence in living standards, which has indeed evolved satisfactorily. The evolution of disposable per capita income, which reached 82% of the western level in 2013, is evidence of this. If one considers that prices in the east are around 8% lower than in the west in real terms the convergence of living standards comes to 89% of the western level. This is in part the effect of a progressive tax system, which automatically redistributes from west to east, but also of the transfers via the federal budget, the Solidarity Pact II and the pension system.

Figure 48: confrontation of economic variables (as % of West)



The effect exerted by the national pension system can be seen in the upper two curves of the chart below. In nominal terms, pensions per pensioner in eastern Germany are currently 118% of the western German level – in real terms they are even higher, at 128%. These figures result

from the generosity with which the pension-relevant years of East Germans were incorporated into the western pension system, recognizing their long and uninterrupted occupational histories under communism.

All of this has been extremely costly for West Germany. Currently, the net transfers through public budgets amount to 70 billion euros per year, totaling some 1.75 trillion euros since reunification. Replicating this strategy on a North Korean level to prop up the country would be astronomically expensive, given that its population accounts for 40% of the Korean total (against only 20% of the Germans living in East Germany represented in the German total).

Lessons learnt:

- Productivity has to be preserved
- Shift to market economy has to be swift
- Foreign investments have to be fostered
- Immigration flows have to be managed

However here the task could be more challenging

South Korea's GDP is more than 40 times greater than the North's, while the West GDP was 10 times greater than the East's,

South's population is 2 times greater than the North's, while West's population was 4 times greater than the East's,

South's Per-capita GDP is 22 times greater than the North's, while the difference between West Germany GDP and East Germany GDP in 90's was 3 times.

Figure 49: population, nominal GDP and per capita GDP

	West Germany ('89) - \$	East Germany ('89) - \$	Delta West Vs East Germany		South Korea ('16) - KRW	North Korea ('16) - KRW	Delta South Vs North
Population (mln)	61,8	16,4	4x		51,2	24,9	2x
Nominal GDP (bln)	1317	136	10x		1642	36	46x
Per-Capita GDP ('000)	21	8	3x		32038	1450	22x

Fonte: BOK, Kostat, FSC

German-style unification through huge income support could cost much more than it did in Germany and involve significant risk.

Read-across for Korea

Cons opinion

East and West Germany would have been far economically better off, if the countries remained independent. The reunification of Germany would have yielded significant economic benefits, if the unification itself were based on close economic integration with the establishment of free trade area and free movement of capital, goods and labour. If East Germany had remained independent and retained its own currency without the uncovered exchange rate realignment to West German exchange rate parity, the relative price of East German labour wouldn't have increased and thus the unemployment rate would be significantly lower than it has been ever since the reunification. Thus, West German firms would easily find attractive investments in East Germany. The process would have dramatically reduced disparities in population density compared to the West. Under such



scenario, East Germany's macroeconomic stabilization and institutional reforms would be a lot easier and the overall economic and political transition much less painful.

Pros opinion

A hybrid solution could have been easily reversed. We are learning the way populism can be disruptive or territories under URSS influence attacked. A straight reunification assured peace and stability in central Europe and moved eastward the EU balance. It took advantage of the dissolution of URSS. The events in Ukraine underline how the choice was correct. However, in order to pull such a big shift off, politicians had to present to the voters the reunification unrealistically. When expectations run high the disappointment is likely. That said, with hindsight, things could have been done much better. German reunification represents an important case study for Korea.

Social Cost of Korea Reunification

Based on what happened in Germany many mistakes can be spared. The reunification should only gradually allow people to move either direction and should defend the many competitive that manufacturing in North Korea has. A number of significant repercussions will be felt.

Repercussion

- Some manufacturing will move from South Korea to North Korea, although a significant part of South Korea manufacturing will be reimported from China to North Korea. The loss in jobs in South Korea will be negligible relative to the advantage to have manufacturing inhouse and at competitive rates

- As mentioned already cost will be high but so subsidies and investments

- Equity market will do very well, to the benefit of investors and savers

- Hundreds thousands of families will be reunited

- A reunified Korea will become one of the 5 most powerful country in the world

- The reunification could further reinvigorate the pride and the drive of the country, and boost growth and opportunities for the next 10 years

To sum up

In the tables below, matrices are presented in which a score is given to each of the three scenarios presented: *Status Quo*, *Full Political Reunification*, *Economic Rapprochement*.

The score is determined by assigning a value (from -10 to +10) to each of the main variables at play in the complex scenario that characterizes the situation between the two Koreas:

- South Korea's public support
- South Korea's political will
- Costs
- China's attitude
- Implications in terms of economic growth ("Economic Outcome")
- Social issues
- North Korea's political will.

Case a) Full Political Reunification

Factors	-10 Very Negative	-5 Negative	0 Neutral	5 Positive	10 Very Positive	
Public Opinion Support						Page 42
SK Political Will						Page 43
Cost						Page 79
China attitude						Page 26
Economic Outcome						Page 84 -87
Social Issues						Page 80
NK Political Will						Page 20
SCORE	-10	-5	0	15	10	10

Source: NicheAM



Case b) Economic rapprochement

Factors	-10 Very Negative	-5 Negative	0 Neutral	5 Positive	10 Very Positive	
Public Opinion Support						Page 42
SK Political Will						Page 43
Cost						Page 79
China attitude						Page 26
Economic Outcome						Page 84 -87
Social Issues						Page 80
NK Political Will						Page 20
SCORE	-10	0	0	0	50	40

Source: NicheAM

Case c) Status Quo

Factors	-10 Very Negative	-5 Negative	0 Neutral	5 Positive	10 Very Positive	
Public Opinion Support						Page 42
SK Political Will						Page 43
Cost						Page 79
China attitude						Page 26
Economic Outcome						Page 84 -87
Social Issues						Page 80
NK Political Will						Page 20
SCORE	0	-5	0	5	10	10

Source: NicheAM

The score was translated in the likelihood scale on the basis of the table presented below, which shows that the *Status Quo* and *Full Political Reunification* scenarios both have a probability of 20% (e.g., “*Unlikely*”), while the *Economic rapprochement* scenario has a probability of 60% (e.g., “*Likely*”).

As a consequence, the "**Korea Reunification**" scenario (Full Political Reunification + Economic rapprochement) has an overall **probability of 80%**.

Score/Probability table

Score		%	median
MAX - 70			
MIN - 0			
0-5	Highly unlikely	0-10%	5%
from 10 to 20	Unlikely	15-25%	20%
from 25 to 35	More unlikely than likely	30-50%	40%
from 35 to 45	More likely than unlikely	50%-70%	60%
from 50 to 60	Likely	75-85%	80%
from 65 to 70	Highly likely	90-100%	95%

Scenario	SCORE	Probability
Status Quo (a)	10	20%
Full Political Reunification (b)	10	20%
Economic rapprochement (c)	45	60%
Korea Reunification (b+c)		80%

Source: NicheAM

Once the probability that the three different scenarios might occur had been determined, an analysis was then carried out to determine the possible annualized returns of each of them, according to the assumptions presented in the following pages.

To summarise the results of the analysis, it can be stated that:

1) In case the status quo prevails (20% probability), the Korea market is still very attractive: the annualized possible return is 14%.

2) In case a straight reunification takes place (20% probability), the opportunities will outweigh the integration risks and we see a better upside than in the first scenario, although the market volatility risk will remain elevated. The annualized possible return is 20%.

3) In case North Korea undergoes a Vietnam or China development scenario (60% probability), we see a significant upside provided by a decrease of the risk premium and new growth opportunities; this is by far the best scenario in terms of both absolute market upside and lower volatility. The annualized possible return is 18%.

Table 1: assumptions and probability of the scenarios

	<i>Status quo</i>	<i>Straight reunification</i>	<i>The adoption of market economy</i>
Probability (5 years horizon)	20%	20%	60%
EPS Cagr '22-'26	8%	14%	11%
re-rating 5Y from ESP growth (a)	44%	89%	68%
DPS (b)	15%	15%	15%
re-rating from "triggers" (c)	35%	35%	35%
re-rating from geopol. risk rem. (d)	0%	15%	15%
Possible Returns (a+b+c+d)	93%	153%	133%
Annualized possible return	14%	20%	18%

* «Triggers» = Corporate Governance improvements, Dividend growth, unwinding of the control chains, MSCI World Inclusion

Source: Niche AM on Thomson Reuters and Samsung Securities data

Even before considering the 15% rerating due to the fading of geopolitical risks and the 35% rerating driven by the above mentioned «triggers», the Korean market would trade at 10,4x Earnings, still one of the cheapest indexes globally (on P/E basis) despite its technology leadership.



Table 2: Major assumptions

	<i>Source:</i>
EPS Cagr '22 – '24	<i>"Status quo": Bloomberg consensus</i> <i>Straight reunification: Niche AM (pls see table below)</i> <i>The adoption of mkt economy: Niche AM (pls see table below)</i>
EPS Cagr '25 – '26	<i>"Status quo": average 20 years annualized real EPS growth</i> <i>Straight reunification: Niche AM (pls see table below)</i> <i>The adoption of mkt economy: Niche AM (pls see table below)</i>
DPS	<i>Bloomberg consensus</i>
Re-rating from "triggers"	<i>Niche AM based on the average discount at which Korea trades vs. other market (pls see page. 25)</i>
Re-rating from geop. risk rem.	<i>Niche AM</i>



Straight Reunification Scenario – main assumptions

Horizon	20 years
Subsidies	assumed to be used for direct transfers to households – average 37 bln \$ per year in the first decade – average 14 bln \$ per year in the second decade as GDP rises over time the scale of the subsidies will more than proportionally fall overtime as a share of GDP
Total investments	500 bln \$ - 20 years – 80% in the first decade – 20% in the second decade
Investment / Sales	60% of the investments to be made by South Korean firms
> sales from direct South-Korean investments	10% - cautious estimate of conversion from korea direct investments to sales
Subsidies / Sales ratio	50% of subsidies will result in additional sales for South Korean firms
Operating leverage	0,14x
Tax rate	we assume 30%, Vs current 25%. This is due to a likely raise related to the significant reunification fiscal effort
Korea Reunification universe earnings estimate	110 bln \$

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Subsidies	70	70	40	30	30	30	30	30	20	20
Investments total	10	50	110	190	270	310	350	380	400	415
Annual investments	10	40	60	80	80	40	40	30	20	15
% SOUTH KOREA	6	24	36	48	48	24	24	18	12	9
> sales from investments	6	24	36	48	48	24	24	18	12	9
>sales from direct South-Korean investments (10%)	10.0%	5	11	19	27	31	35	38	40	42
>sales from subsidies 50%	50.0%	35	35	20	15	15	15	15	10	10
total >sales	41.0	64.0	67.0	82.0	90.0	70.0	74.0	71.0	62.0	60.5
average operating leverage 0,14	0.1	4.0	6.3	6.6	8.0	6.9	7.3	7.0	6.1	5.9
Impact on 110 bln universe earnings core	110	3.7%	5.7%	6.0%	7.3%	6.2%	6.6%	6.3%	5.5%	5.4%

	Year 20	Tot.
(...)	500	500
	2	500
	1.2	1.2
	50	50
	51.2	51.2
	5.0	5.0
	4.6%	4.6%

The Adoption of market economy Scenario – main assumptions

Horizon	20 years
Subsidies	assumed to be used for direct transfers to households – average 6 bln \$ per year in the first decade – average 14 bln \$ in the second decade as GDP rises over time the scale of the subsidies will more than proportionally fall overtime as a share of GDP
Total investments	400 bln \$ – 20 years – 80% in the first decade – 20% in the second decade
Investment / Sales	45% of the investments to be made by South Korean firms
> sales from direct South-Korean investments	10% – cautious estimate of conversion from Korea direct investments to sales
Subsidies / Sales ratio	50% of subsidies will result in additional sales for South Korean firms
Operating leverage	0,14x
Tax rate	we assume 30%, Vs current 25%. This is due to a likely raise related to the significant reunification fiscal effort
Korea Reunification universe earnings estimate	110 bln \$

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	(...)
subsidies	28	28	16	12	12	12	12	12	8	8	
investments total	8	40	88	152	216	248	280	304	320	332	
annual investments	8	32	48	64	64	32	32	24	16	12	
% SOUTH KOREA	3.6	14.4	21.6	28.8	28.8	14.4	14.4	10.8	7.2	5.4	
> sales from investments	3.6	14.4	21.6	28.8	28.8	14.4	14.4	10.8	7.2	5.4	
>sales from direct South-Korean investments (10%)	10.0%	4	9	15	22	25	28	30	32	33	
>sales from subsidies 50%	0.5	1.4	8	6	6	6	6	6	4	4	
total >sales	17.6	32.4	38.4	50.0	56.4	45.2	48.4	47.2	43.2	42.6	
average operating leverage 0,14	0.098	1.7248	3.2	3.8	4.9	5.5	4.4	4.7	4.6	4.2	
Impact on 98 bln universe earnings	110	1.6%	2.9%	3.4%	4.5%	5.0%	4.0%	4.3%	4.2%	3.8%	3.8%

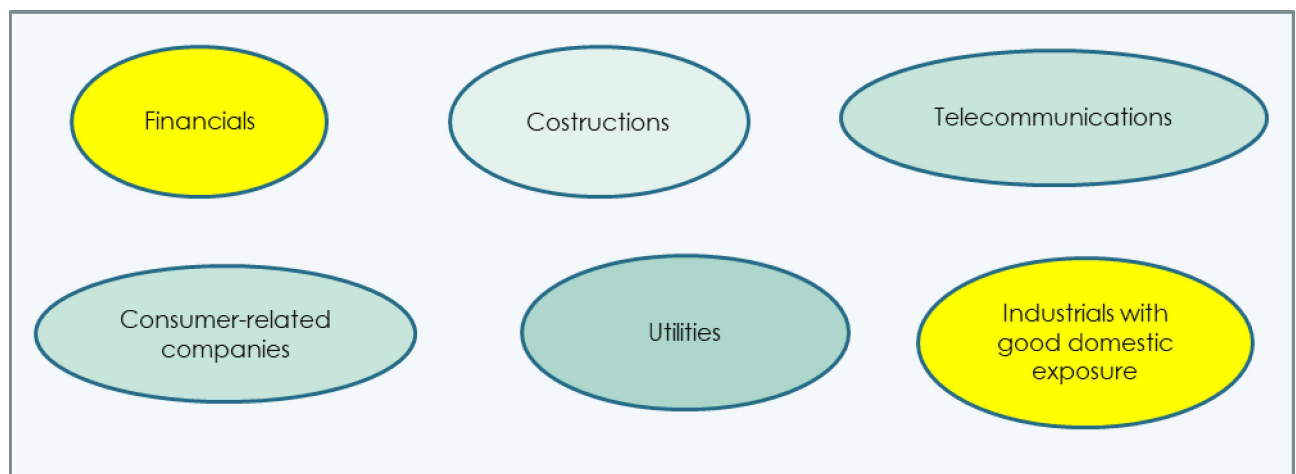
Year 20	Tot,
400	200
1.6	400
0.72	
40	
0	
40.7	
4.0	
3.6%	

Korean reunification Portfolio

Target:

Gain exposure to the benefits of reunification in the long term, and of closer economic cooperation between in the short term:

Figure 50: Target investment sectors



Source: NicheAM

INVESTMENT OPPORTUNITIES BY SECTOR: EXAMPLES

Financial services

Short-medium term: infrastructure financing; new industrial district financing

South Korean banks would probably play a significant role for what regards the North Korea enormous infrastructure plan, once “safety measures” would be introduced to encourage the investments.

These banks have plenty experience with infrastructure financing (SOC projects) both at home and abroad. Banks are increasingly favouring lower-risk government-led SOC projects over real-estate PF projects and they are even teaming up with rivals for mega SOC projects in order to diminish risk (KB Kookmin Bank and Shinhan Bank successfully co-arranged a KRW4t

syndicated loan to construct Goseong thermal power plant, the nation's largest private sector project financing).

Figure 51: SOC projects, south korean banks

Banks	Projects	Size
Kookmin Bank	Western inland expressway	KRW2.4t
	Light rail project (Busan to Gimhae)	KRW1t
	Light rail project (Woori to Sinsul)	KRW385b
	Ulsan Bridge project	KRW270b
	Highway project (Icheon – Osan)	KRW350b
Shinhan Bank	GTX A – Shinhan Bank consortium	KRW3.4t
KDB	Highway project (Icheon – Osan)	KRW350b

Source: Local media, Samsung Securities

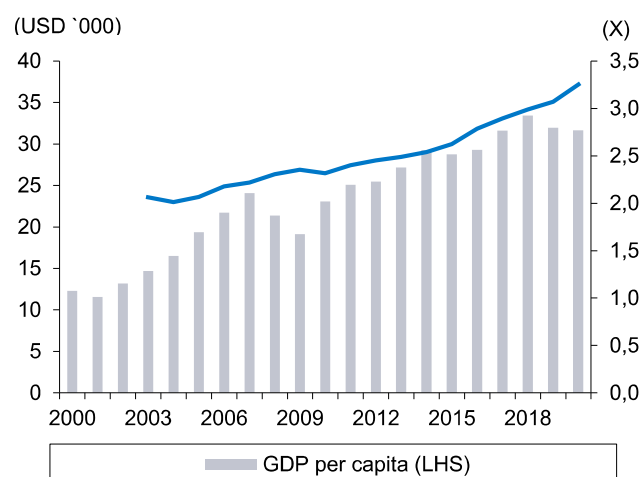
The South Korean Banks have also been started to look for project Financing in foreign countries; in the past this was dominated by state-owned banks.

Another source of growth should be represented by the funding for:

- 1) working capital and capital for equipment to be provided to the South Korean constructors participating in North Korean projects;
- 2) funding needs of the firms operating at new industrial complexes in North Korea;
- 3) funding demand related to the plant construction by material suppliers

Long term: new customers when the North Korean GDP per-capita will grow

Figure 52: Korea, GDP per capita vs bank loans as % of GDP



A surge in the North's GDP per capita may provide new growth drivers: corporate and household loan demand should significantly expand, even assuming that their market share will be capped to facilitate the nascent local banks. As a matter of fact, a nascent local bank system would need joint ventures. And the South Korean banks could catch

opportunities arising from the gradual opening of the North Korea financial market.

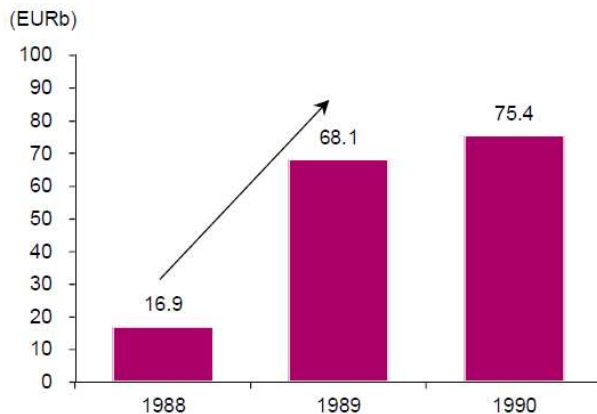
Table 3: North Korea, loan assets to nominal GDP vs GDP per capita

(KRWt)		Loan assets to nominal GDP (x)				
		0.5	0.6	0.7	0.8	0.9
GDP per capita	USD5,000	80.4	96.5	112.6	128.7	144.8
	USD10,000	160.9	193.1	225.2	257.4	289.6
	USD15,000	241.3	289.6	337.9	386.1	434.4
	USD20,000	321.8	386.1	450.5	514.8	579.2
	USD25,000	402.2	482.7	563.1	643.5	724.0

Note: assumes 20% of North Korean population growth from 2016 level; current exchange rate basis Vietnam's bank loans were 240 trn KRW in 2016 and per capita GDP 2200 US\$; Source: BOK, estimates Samsung Securities

South Koreans insurers might enjoy new opportunities by selling products to people and companies doing business with/travelling to North Korea. Over the mid to long term, they will benefit from greater demand for insurance products from wealthy North Korean households.

Figure 53: Allianz, assets growth during reunification process



Source: Bloomberg

South Koreans insurers might enjoy new opportunities by selling products to people and companies doing business with/travelling to North Korea. Over the mid to long term, they will benefit from greater demand for insurance products from wealthy North Korean households.

Also the Securities Brokers could enjoy growth opportunities from the North Korea in terms of traditional agency operations (brokerage, fund sales, and IPO).



Telecoms

Telecom = essential recovery driver

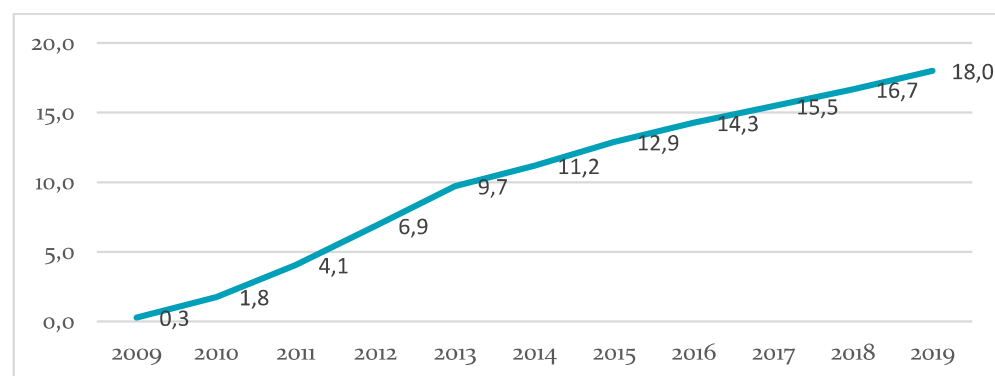
The telecommunication infrastructure is one of the most important infrastructures in any nation. North Korea makes no exception, hence it's reasonable to assume that this sector is going to represent a priority.

Very important capex needed to support the additional customer base, leading to a benign regulatory framework

According to FSC, the financial resource estimate for telecom infrastructure would be in the region of USD10 bln (similar to the investments required for electricity). The capex magnitude should not surprise since the lack of telecommunication infrastructures is a necessary element in a political regime.

According to the latest available data, only 4.5 million North Koreans, 18 percent of the total population, are actively using the phones. Current mobile telephony services are still carried out using 3G networks.

Figure 54: North Korea, Mobile penetration



Source: National Statistics Office, NicheAM

We would expect that South Koreans telecom players (SK Telecom, KT Corp, LG Uplus) will play a major role. They all enjoy a solid balance sheet. Their financial resources mean significant room for spectrum and Capex. It's also reasonable to expect a benign regulatory framework due to importance of the infrastructure set-up in a short to medium term horizon.

Infrastructures

Huge infrastructure demand = buoyant top-line opportunities

As already mentioned, the infrastructure plan should generate several opportunities for the industries exposed:

- the players specialized in the construction of major, complex infrastructure projects (Hyundai Engineering & Construction, DL E&C)
- the producers of construction machinery and heavy machinery, that will benefit not only from the infrastructure building, but also from mining projects in the North (Hyundai Doosan Infracore, Hyundai Heavy Industries);
- steelmakers (Posco, Dongkuk Steel)
- logistic players (Sebang)

Consumers

As the personal income surges consumer goods demand will increase. Food producers (Ottogi, NongShim, Daesang), food retailers (Hyunday Green Food, GS Retail), department stores (Hyundai Department Stores), automakers (Hyundai Motor, Kia), consumer electronics producers, etc will all benefit out of this although Chinese low-cost manufacturers will be the first choice while South Korean goods will be part of the upmarket offer.



Below we present an overview of the current valuations of the above-mentioned sectors compared to the valuations of other Asian markets, which confirms the attractiveness of the Korean market, consistent with the undervaluation also expressed at index level.

Banking sector

Name	PE	PB	Div Yield
Australia Banks	16.0	1.66	4.2%
China Banks	3.9	0.64	6.6%
Hong Kong Banks	10.1	1.31	3.8%
India Banks	12.7	2.47	0.5%
Indonesia Banks	17.3	2.90	2.7%
Korea Banks	4.6	0.52	5.0%
Malaysia Banks	11.8	1.26	4.1%
Philippines Banks	11.6	1.26	1.3%
Singapore Banks	11.1	1.34	3.7%
Taiwan Banks	14.9	1.56	2.9%
Thailand Banks	8.6	0.72	3.4%

Telecommunication sector

Name	PE	PB	Div Yield
Australia Telecom	23.5	2.91	4.0%
China Telecom	13.7	0.80	3.7%
Hong Kong Telecom	19.6	2.19	6.7%
India Telecom	176.9	5.80	0.0%
Indonesia Telecom	17.9	4.50	3.4%
Korea Telecom	7.8	0.87	4.1%
Malaysia Telecom	23.1	3.76	3.3%
Philippines Telecom	14.0	3.78	4.4%
Singapore Telecom	16.4	1.63	2.6%
Taiwan Telecom	27.5	3.03	3.7%
Thailand Telecom	29.8	5.63	3.1%

Materials sector

Name	PE	PB	Div Yield
Australia Materials	11.1	2.98	8.1%
China Materials	11.3	1.90	3.4%
India Materials	13.2	3.12	1.5%
Indonesia Materials	18.4	1.93	1.1%
Korea Materials	8.3	0.79	3.2%
Malaysia Materials	15.4	3.57	2.8%
Taiwan Materials	11.6	1.55	3.0%
Thailand Materials	9.6	1.22	4.4%

Insurance sector

Name	PE	PB	Div Yield
Australia Insurance	13.8	1.50	4.1%
China Insurance	4.8	1.01	5.6%
Hong Kong Insurance	17.1	2.46	1.7%
India Insurance	50.0	9.73	0.4%
Korea Insurance	9.1	0.90	4.6%
Taiwan Insurance	9.1	1.11	3.7%

Industrial sector

Name	PE	PB	Div Yield
Australia Industrials	31.9	3.00	2.8%
China Industrials	8.2	1.28	2.9%
Hong Kong Industrials	10.2	0.36	3.5%
India Industrials	22.0	5.39	0.7%
Korea Industrials	10.1	1.12	1.6%
Malaysia Industrials	24.7	1.39	3.7%
Philippines Industrials	16.7	1.90	1.4%
Singapore Industrials	56.5	1.42	2.5%
Taiwan Industrials	5.9	2.21	1.5%
Thailand Industrials	88.5	4.78	0.7%

Consumer Staples sector

Name	PE	PB	Div Yield
Australia Cons. Staples	25.4	8.17	2.7%
China Cons. Staples	17.5	5.58	2.3%
Hong Kong Cons. Staples	9.9	1.35	2.4%
India Cons. Staples	42.4	10.28	1.5%
Indonesia Cons. Staples	13.5	2.32	4.0%
Korea Cons. Staples	12.7	1.23	2.5%
Malaysia Cons. Staples	24.6	2.23	2.7%
Philippines Cons. Staples	22.9	3.04	1.8%
Singapore Cons. Staples	10.8	1.10	3.3%
Taiwan Cons. Staples	19.9	3.96	3.9%
Thailand Cons. Staples	21.5	2.84	1.8%

Source: BofA Asia Pac Quant Panorama 28/04/22, NicheAM



KOREAN REUNIFICATION PORTFOLIO

The initial universe will consist of companies that:

- generate at least 30% of their turnover in the domestic market;
- operate in one of the following sectors: telecommunications, financial services, construction, retail, consumer goods, transportation, energy, materials, healthcare, industrial, consumer discretionary, information technology, real estate or communication services.

Within this group of securities, a filter will be applied to exclude companies that are not instrumental in achieving the Sustainable Development Goals (SDGs) and those in the arms, tobacco and fossil fuel sectors, consistent with NicheAM's Responsible Investment Policy.

The universe is composed of approximately 600 stocks, corresponding to about 30% of the Kospi index in terms of capitalisation.

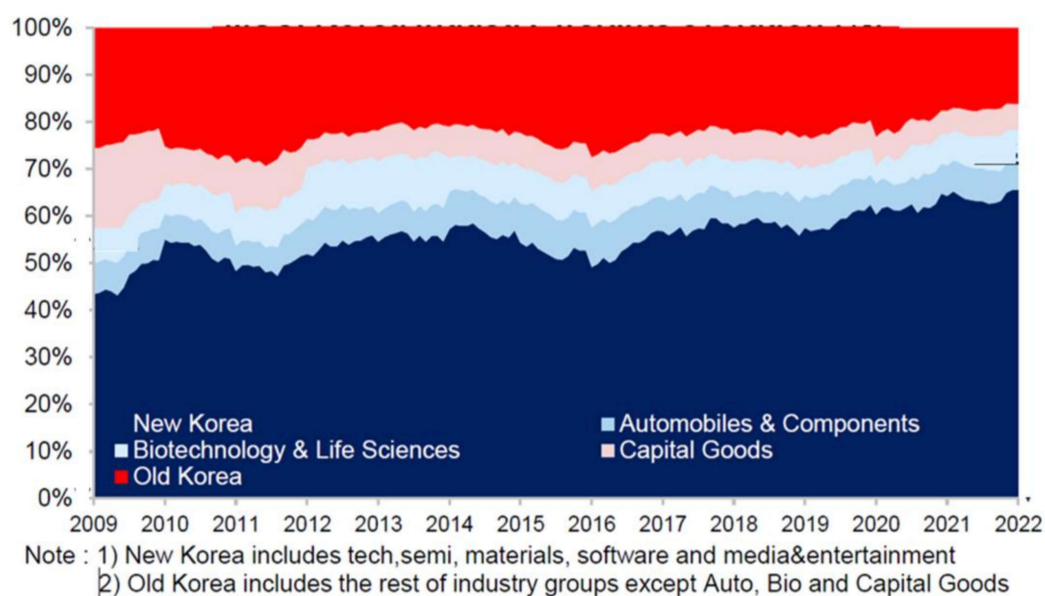
Within this universe, securities will be selected on the basis of an integrated fundamental and sustainability (ESG and SDG) analysis. For more details on the integrated analysis process, please refer to the paragraph ESG -SDG Engagement.



AN UNIVERSE OF SECURITIES THAT LOST PROMINENCE WITHIN THE KOSPI INDEX

The fund focuses on sectors that are not evidently under the attention of local and foreign investors. Within the Korean stock market, in fact, the greatest attention of local and foreign investors is on growth sectors that have taken an increasing share of the index. The chart below highlights how the weight of tech, semiconductor, software, and biotech has come to account for about 70% of the Kospi index, up from approx. 50% in 2009. Looking at more traditional industries such as automotive, capital goods and old economy, these now only account for more than 30% of the Korean stock market.

MSCI Korea industry weights evolution (%)



Source: FactSet, MSCI, GS

As already pointed out, the Korean stock market has decidedly attractive valuations, both in absolute terms and compared to the main Asian and world markets. In a market with these characteristics, the choice of targeting sectors that cannot be defined as hype creates particularly interesting investment opportunities with even more striking undervalued characteristics.



SIGNIFICANT ROOM FOR ENGAGEMENT IN KOREA

As already mentioned in the *Corporate governance improvements and unwinding of the chaebol control chains* section, there are some areas in South Korea where the regulatory framework does not reflect international best practice.

According to *MSCI Market Report Korea 2020*, the Main Korean Corporate Governance issues are the following: *No Female Directorship, No Pay Committee and Execs on Board, Executive Misconduct* and *Undersize Board*.

Main Korean Corporate Governance issues

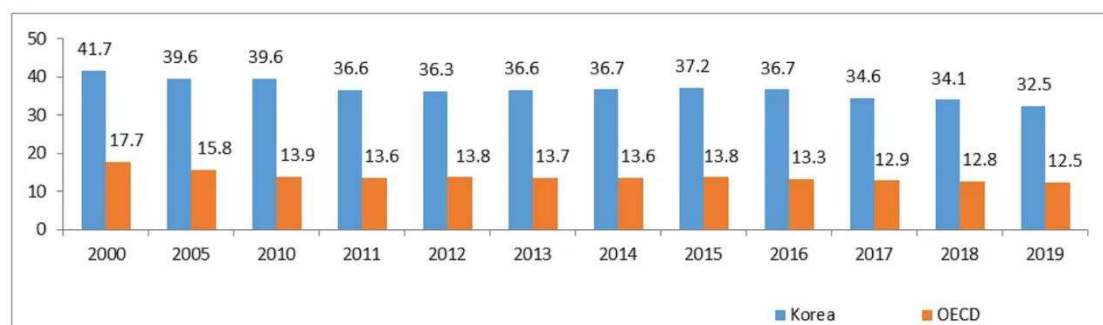


Source: MSCI ESG Research. Data as at March 5, 2020

The first point is the lack of gender diversity in the Board of Directors. According to data collected by MSCI in March 2020, 77% of the boards of directors of Korean companies have no women on their boards, compared to 33% of emerging markets benchmark and 19% of main global benchmark. This figure has improved slightly over the last two years and is set to improve further due to the changes made by the regulator. As already anticipated, for companies which total assets is over KRW 2 trillion or more is prohibited to have a board of directors composed entirely of one gender from beginning of August 2022.

Gender equality in Korea is a historical problem, which stems from primarily cultural reasons. Some Koreans still call a wife *Djip-saram*, which means a home person, while naming a husband *Bakat-Yangban*, a man outside, which represents a “labelled” perception that women should stay home rearing children and doing unpaid work. Women are still under-represented in the Korean labour market. According to OECD, women labour-force participation rate rose from 49% in 1990 to 60% in 2019, but it is still somewhat low compared with the OECD average of 65%. The low participation rate is more significant if we consider that, on the education side, in 2020, women’s enrollment rate was 71.3%, 5% higher than that of their male counterparts. Finally, according to the Global Gender Gap Report 2020, South Korea was ranked 108th out of 153 countries evaluated. The Korean gender pay gap remains the largest in the OECD, even if the gap is narrowing. In the case of people in their twenties with a similar educational level and tenure at work, there is little or even a negative gender pay gap, showing that the gap according to education level has almost vanished.

Gender wage gap in Korea (2000-2019)



Source: stats.oecd.org.

For what concerns the Remuneration Committee, most of companies have not yet established it (>50%), in stark contrast to listed companies in the main global benchmark (approx. 9%) and the emerging benchmark (7%). The remuneration committee function is usually performed by the BoD as a whole.

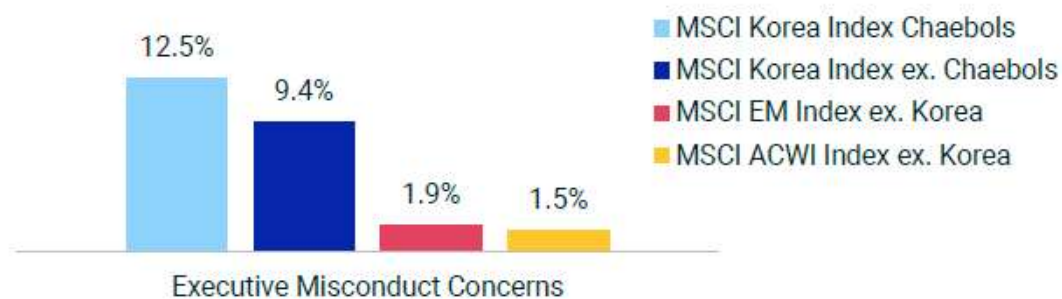
According to the Korea Law, a remuneration committee must be established only in the case of financial companies. In the case of non-financial companies, in fact, the typical procedure



is to have a cap on remuneration for all directors determined at the general shareholders' meeting. Then, the specific amount of remuneration for each director is resolved by a resolution of the BoD. There are no specific provisions for the senior management of non-financial firm (not member of the BoD).

In terms of Executive Misconduct, it must be highlighted that the majority of the cases are related to chaebols, as can be seen from the chart below, but also that the average figure for Korean ex-chaebols is still high. Despite there are no laws preventing condemned executives from being appointed to the BoD of public companies, with the exception of financial institutions. Nevertheless, a regulation passed in 2019 assigns the Ministry of Justice the power to dismiss executives from their role in the event they perpetrate an economic crime.

Executive misconduct concerns (%)

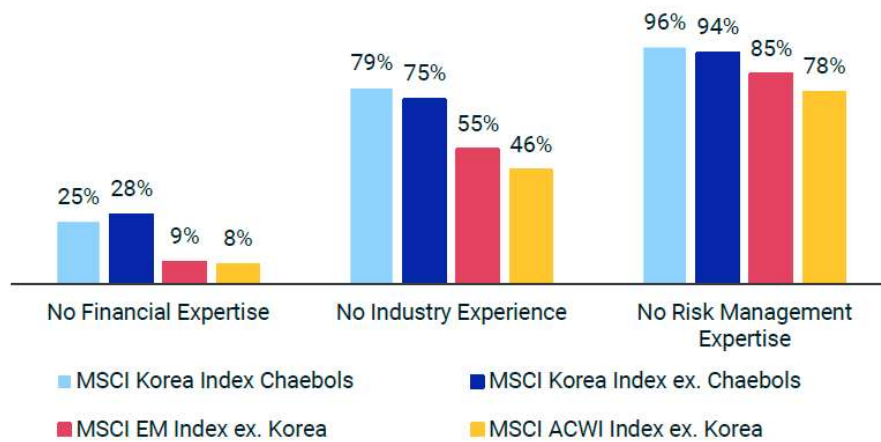


Source: MSCI ESG Research. Data as at March 5, 2020

The undersize board issue seems not to be particularly relevant compared to the main benchmarks (3.8% Vs. approx. 0.8% main global equity benchmark and emerging markets).

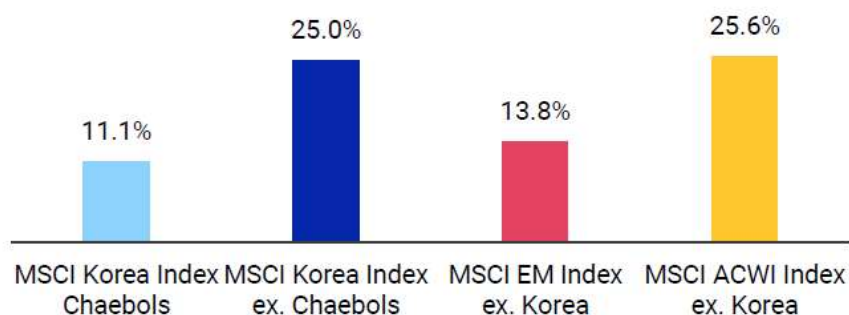
A further critical element in addition to those already mentioned is the insufficient non-exec director expertise. Approximately 28% of Korean companies do not have any independent directors with financial expertise, compared to 8% of MSCI ACWI index ex Korea. The lack of expertise can be observed also for what concerns industry expertise (75% Vs 46% MSCI ACWI ex Korea) and risk management expertise. Relevant skills and expertise among independent directors might better equip the BoD to really challenge management and adequately manage risks. In the case of chaebols, these figures are not so different from those of the Korean market.

Insufficient non-exec director expertise



On the other hand, a specific weakness concerning the Chaebols is the lack of independent directorship for what concerns the chair of the Board of Directors. This may result in less protection of minority shareholders' long-term interests. The chart here below shows how among chaebols 11% had an independent, non-executive Chair, compared with 25% of non-chaebols.

Lack of independent leadership: independent chair (%)



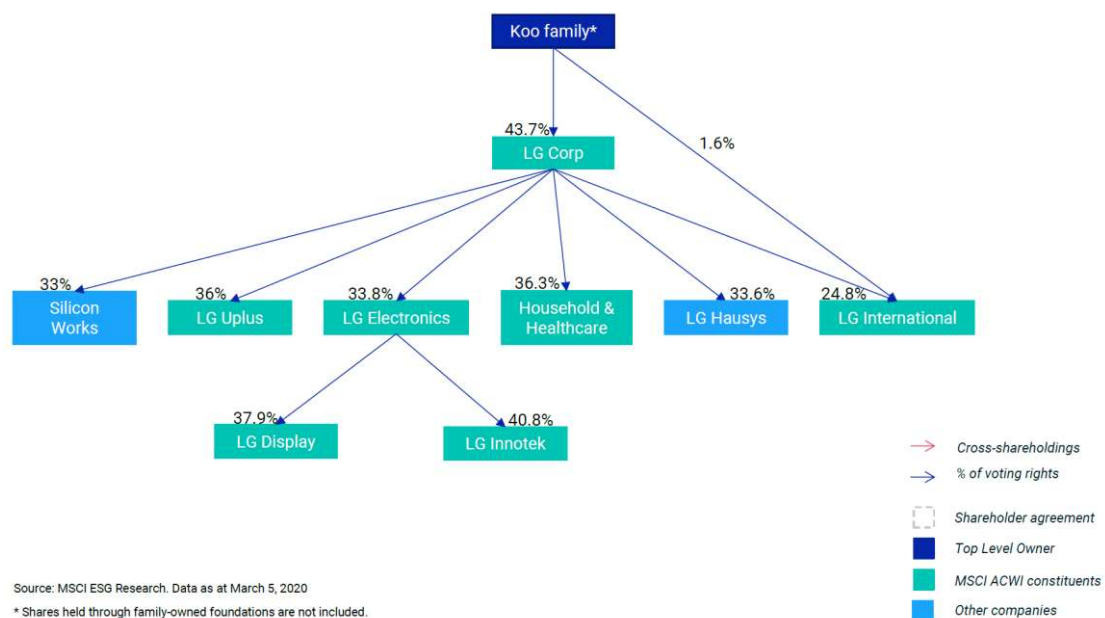
Source: MSCI ESG Research. Data as March 5, 2020



A further critical element of the Chaebols stems from the ownership structures usually used to keep control over their shareholdings: pyramids and cross shareholdings. In both cases, these structures permit to retain power with small direct stakes.

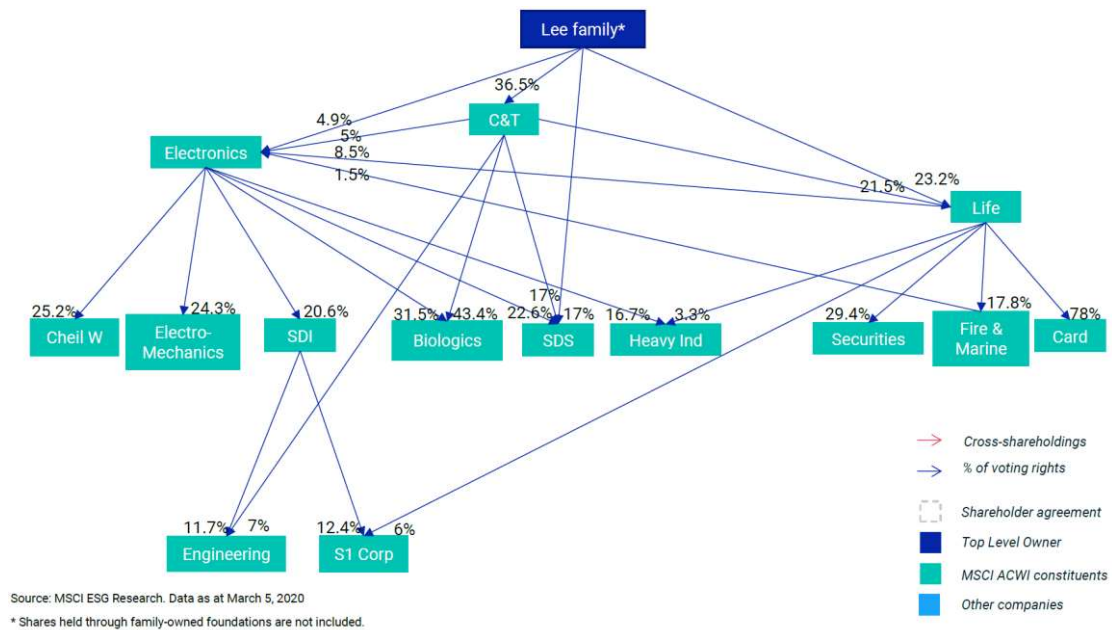
For example, in the case of LG Corp, the Koo family controls LG innotek and LG Diplay through an indirect shareholding of only 6.4% and 5.6% respectively, as can be seen from the chart below.

Chaebol Ownership Structures – LG Corp: Koo family

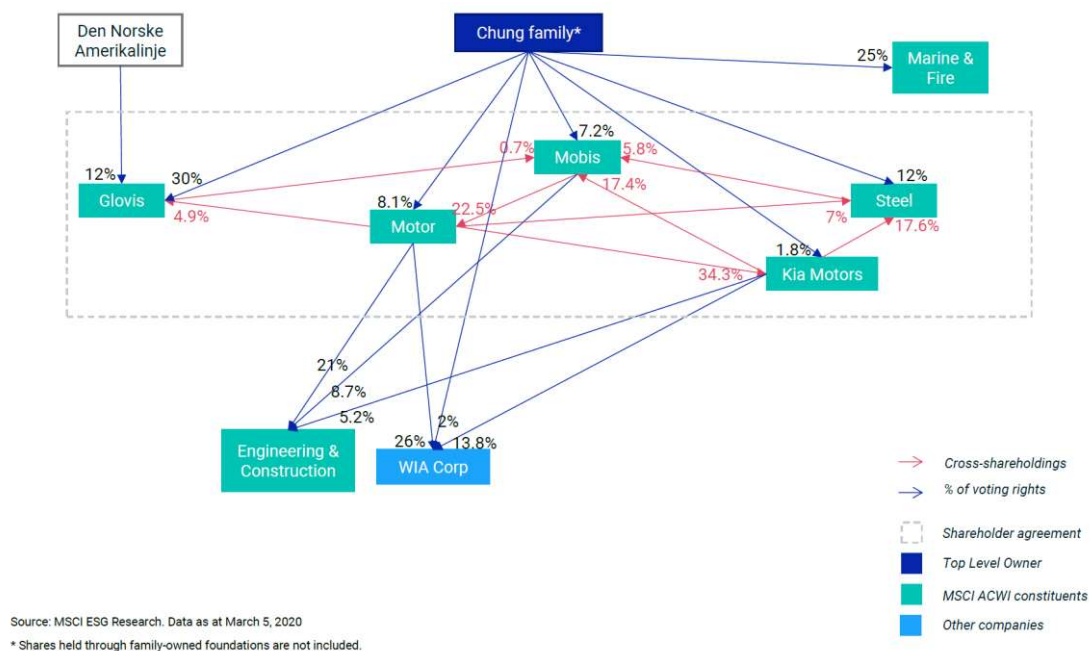


Other examples of chaebols where voting power in subsidiaries is inconsistent with economic interest are found in the following charts.

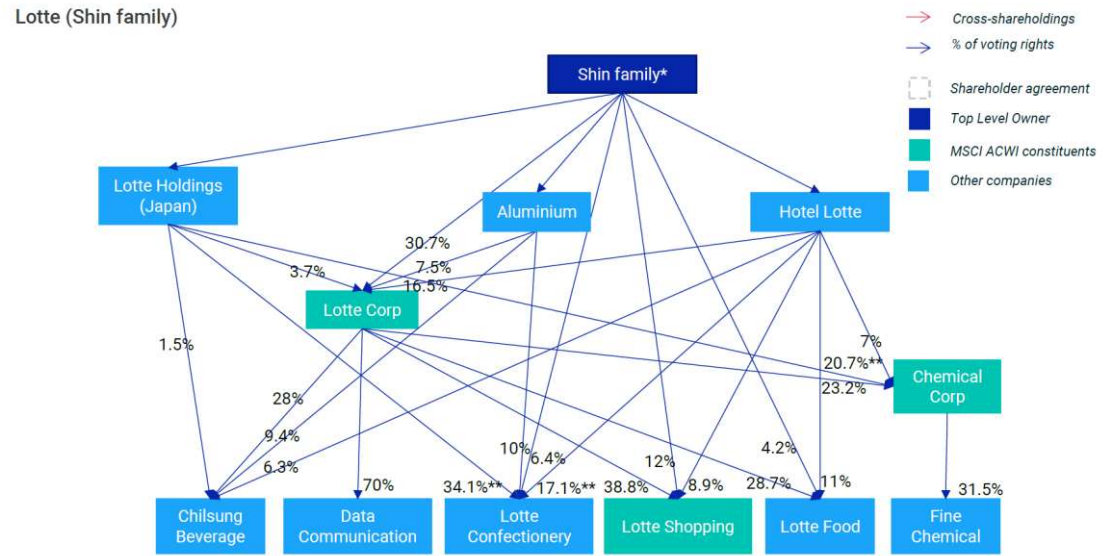
Chaebol Ownership Structures – Samsung: Lee Family



Chaebol Ownership Structures – Hyundai Motor: Chung Family



Chaebol Ownership Structures – Lotte: Shin family



Source: MSCI ESG Research. Data as at March 5, 2020

ESG – SDG - ENGAGEMENT

The Korea Reunification fund falls under **Article 8 of the SFDR regulations ("light green investments")**, i.e. it promotes, among other things, environmental or social characteristics, provided that the companies in which it invests respect good governance practices.

The analysis of corporate governance factors is qualitative and considers elements such as the diversity of the Board of Directors, its independence, experience, turnover, ability to direct corporate strategy, employee relations and compliance with legal and tax requirements.

It is possible that some of these companies may not be able to publish a sustainability report or make a disclosure to account for sustainability in relation to the Environmental and Social component. If this occurs, **engagement** will be carried out, with the aim of improving both the sustainability culture and processes within the investee company and its reporting processes.

Believing that engagement is the most powerful tool to spread sustainability processes among small companies, we will try to generate added value by offering companies insights and knowledge sharing in relation to ESG investments. Indeed, NicheAM considers this direct engagement an essential part of the investment process: engaging with companies on ESG issues enables them to improve their fundamentals in the medium to long term.

All engagement activities with investee companies, through e-mails, videocalls and meetings, will be archived through an integrated analysis report. Engagement objectives for each investee company will be set and periodically reviewed, together with progress towards achieving them.

A proprietary ESG scoring system will be used for the integrated analysis, which may also leverage ESG data from third parties, including Thomson Reuters, to identify all relevant ESG factors within the investee's industry.

Examples of environmental and social factors covered by direct engagement with investee companies include workplace conditions, access to healthcare, workforce diversity and inclusion, improved sustainability reporting, land use, water and waste management, use of renewable energy and supply chain focus on working conditions and sustainability issues.

The Fund seeks to invest primarily in securities issued by companies that make a positive impact instrumental in achieving the 17 Sustainable Development Goals ("SDGs") as defined by the United Nations ("UN"): (1) No Poverty, (2) Zero Hunger, (3) Good Health and Well-being, (4) Quality Education, (5) Gender Equality, (6) Clean Water and Sanitation, (7) Affordable and Clean Energy, (8) Decent Work and Economic Growth, (9) Industry, Innovation and Infrastructure, (10) Reduced Inequality, (11) Sustainable Cities and Communities, (12) Responsible Consumption and Production, (13) Climate Action, (14) Life Below Water, (15) Life On Land, (16) Peace, Justice, and Strong Institutions, (17) Partnerships for the Goals.

As mentioned in the previous section, in line with its Responsible Investment Policy Niche AM applies an exclusion policy to investments in companies exposed to armaments, tobacco and fossil fuels. Investments will therefore be excluded in:

- o companies involved in the production, sale or storage of uranium weapons;
- o companies involved in the production or sale of anti-personnel mines and cluster bombs prohibited by the Oslo and Ottawa treaties;
- o companies generating revenues in excess of 10% of total revenues from arms;
- o Companies that generate revenues in excess of 10% of total revenues from tobacco;
- o Companies with revenues exceeding 10% of total revenues from thermal coal; and
- o companies that generate revenues in excess of 10% of total revenues from upstream oil.

VALUATION GAP REPORT

At the launch of the fund, and on an annual basis, NicheAM will provide a document assessing the the market valuation of the Fund's portfolio and its intrinsic value. The document is published on the website of the Investment Manager at the launch of the Fund and by the end of the first quarter in each subsequent year. If the valuation gap changes significantly during the year, the Investment Manager will provide an update that will be published on its website.

Line-by-line application methodology

The fundamental upside of each individual stock in the portfolio at the time of the analysis will be presented based on a consistent approach. Taking into account the weight of each individual security, the overall upside of the portfolio will be calculated.

Korea Reunification in the portfolio will be valued using a strict value approach.

Korea Reunification company is based on a target Price/Earnings in a range varying from 6x, 8x, 10x and 12x. The starting Equity base for the calculation of the intrinsic value is calculated according to the balance sheet structure with "cash or debt free". So, in all the cases the Price Earnings target has been calculated according to a financial structure free of debt and cash. In terms of cash, the return of financial investments to shareholders, difference between trade receivable and trade payables and customer advances will be taken into consideration. If company's earnings base has been strongly impacted by Covid19 pandemic, normalized net income pre pandemic will be used. Otherwise, Price Earnings 2020 has been used.

<i>Price / Earnings</i>	<i>Company growth trend / risk profile</i>	
6x	<i>Sectors that are significantly cyclical (Construction, steel, metal, etc)</i>	A
8x	<i>Companies with stagnating earning dynamics</i>	B
10x	<i>Companies with moderate earning dynamics</i>	C
12x	<i>Companies with high earning dynamics</i>	D

Source: NicheAM

For the financial companies (banks and insurance) is based on 1-time tangible book value which is considered to be fair in view of the strong balance sheets of companies and the profitability trend.



Company	Sector	Last Price	Profile	Price Earnings target	Net debt	Upside / (Downside) to current price
A Self-Administered REIT	Real Estate	7580	B	8.0	0	222%
Asia Paper Manufact.	Materials	49900	C	10.0	0	96%
BNK Financial Group Inc	Financials	8350	-	F	0	223%
Bookook Securities Co	Financials	23850	-	F	0	337%
Chokwang Leather Co	Consumer Discretionary	51700	C	10.0	0	84%
Chosun Refractories Co	Industrials	78700	C	10.0	0	166%
CS Holdings Co	Industrials	64500	B	8.0	0	285%
Cuckoo Holdings Co	Consumer Discretionary	17850	B	8.0	0	128%
Daeduck Co	Information Technology	7360	A	6.0	0	378%
Daehan Synthetic Fiber	Consumer Discretionary	125500	B	8.0	0	346%
Daesang Holdings Co	Consumer Staples	9130	D	12.0	0	124%
DAISHIN SEC-1P	Financials	14800	-	F	0	267%
Daishin Securities Co	Financials	16800	-	F	0	267%
Daou Technology Inc	Financials	21050	-	F	0	94%
DB Financial Investment	Financials	6480	-	F	0	216%
DB Insurance Co	Financials	63200	-	F	0	64%
DCM	Materials	24050	D	12.0	0	230%
DGB Financial Group	Financials	9630	-	F	0	212%
Dong-A Socio Holdings Co	Health Care	101000	D	12.0	0	80%
Dongwon Industries Co	Consumer Staples	229000	D	12.0	0	105%
DTR Automotive	Consumer Discretionary	74900	B	8.0	0	113%
E-MART	Consumer Staples	140000	-	-	0	36%
Eugene Invest. & Sec.	Financials	3155	-	F	0	203%
Fursys Inc	Industrials	36300	C	10.0	0	146%
GIIR Inc	Communication Services	7250	B	8.0	0	35%
GwangjuShinsegae Co	Consumer Discretionary	170000	B	8.0	0	133%
Halla	Industrials	5210	D	12.0	0	31%
Hana Financial Group Inc	Financials	46250	-	F	0	134%
Hanil Holdings Co	Materials	12650	B	8.0	0	53%
Hanshin Construction Co	Industrials	16400	A	6.0	0	671%
Hansol Holdings Co	Materials	3325	B	8.0	0	367%
Hanwha Gen. Insurance	Financials	3840	-	F	0	224%
Hanwha Life Insurance	Financials	3165	-	F	0	316%
Hanyang Securities Co	Financials	15350	-	F	0	112%
HDC I-Controls Co	Information Technology	10200	C	10.0	0	58%
Heungkuk Fire & Mar. Ins	Financials	3835	-	F	0	165%
Husteel Co Ltd	Materials	15750	B	8.0	0	73%
Hwacheon Mach. Tool	Industrials	32600	B	8.0	0	76%
Hwang Kum Steel & Tech	Materials	8350	B	8.0	0	41%

Portfolio upside summary in absolute terms

The upside of the portfolio will be determined on the basis of the upside determined for each individual security, taking into account their weight in the portfolio.

A discount will then be applied to take account of the average cash held in the portfolio, in order to maintain adequate management flexibility, especially in critical market phases, which may be quantified at around 15%.



# stocks in the portfolio	130
Portfolio Valuation upside @ 04/02/2022	+159%
Discount applied for the average cash in portfolio (15%)	(15%)
Portfolio upside (valuation Gap)	+133%
Potential Upside from Korea Reunification catalyst	0%

Source: NicheAM

Determining the portfolio's average metrics relative to the market

Given the Value/Deep Value style of the fund's strategy, the portfolio will be characterised on average by multiples at a discount to the market on at least one of the following metrics: P/E and/or P/BV and/or EV/Sales and/or EV/EBITDA and/or Dividend Yield. A comparison between the fund's multiples and the market multiples will also be presented.

	P/E '20	P/BV '20	P/BVT '20	Dividend Yield '20
Korea Reunification SDG	5.4x	0.45x	0.54x	3.0%
MSCI World	21.5x	3.20x	n.a.	1.8%

* Without taking into consideration the financial investments and the NWC Adjustments

** Average PE ex firms appraised with liquidation value approach

Source: Niche AM, Thomson Reuters, MSCI



APPENDIX

Panmunjom Declaration, for Peace, Prosperity and Reunification of the Korean Peninsula

Here below we provide the full English version of the Declaration:

During this momentous period of historical transformation on the Korean Peninsula, reflecting the enduring aspiration of the Korean people for peace, prosperity and reunification, President Moon Jae-in of the Republic of Korea and Chairman Kim Jong-un of the State Affairs Commission of the Democratic People's Republic of Korea held an Inter-Korean Summit Meeting at the 'Peace House' at Panmunjom on April 27, 2018.

The two leaders solemnly declared before the 80 million Korean people and the whole world that there will be no more war on the Korean Peninsula and thus a new era of peace has begun.

The two leaders, sharing the firm commitment to bring a swift end to the Cold War relic of longstanding division and confrontation, to boldly approach a new era of national reconciliation, peace and prosperity, and to improve and cultivate inter-Korean relations in a more active manner, declared at this historic site of Panmunjom as follows:

*1. **South and North Korea** will reconnect the blood relations of the people and bring forward the future of co-prosperity and reunification led by Koreans by facilitating comprehensive and groundbreaking advancement in inter-Korean relations. Improving and cultivating inter-Korean relations is the prevalent desire of the whole nation and the urgent calling of the times that cannot be held back any further.*

(1) South and North Korea affirmed the principle of determining the destiny of the Korean nation on their own accord and agreed to bring forth the watershed moment for the improvement of inter-Korean relations by fully implementing all existing agreements and declarations adopted between the two sides thus far.

(2) South and North Korea agreed to hold dialogue and negotiations in various fields including at high level, and to take practical measures for the implementation of the agreements reached at the inter-Korean summit.

(3) South and North Korea agreed to establish a joint liaison office with resident representatives of both sides in the Kaesong region in order to facilitate close consultation between the authorities as well as smooth exchanges and cooperation between the peoples.

(4) South and North Korea agreed to encourage more active cooperation, exchanges, visits and contacts at all levels in order to rejuvenate the sense of national reconciliation and unity. Between South and North, the two sides will encourage the atmosphere of amity and cooperation by actively staging various joint events on the dates that hold special meaning for both South and North Korea, such as June 15 Declaration, in which participants from all levels, including central and local governments, parliaments, political parties, and civil organizations, will be involved. On the international front, the two sides agreed to demonstrate their collective wisdom, talents, and solidarity by jointly participating in international sports events such as the 2018 Asian Games.

(5) South and North Korea agreed to endeavor to swiftly resolve the humanitarian issues that resulted from the division of the nation, and to convene the Inter-Korean Red Cross Meeting to discuss and solve various issues including the reunion of separated families. In this vein, South and North Korea agreed to proceed with reunion programs for the separated families on the occasion of the National Liberation Day of August 15 this year.

(6) South and North Korea agreed to actively implement the projects previously agreed in the October 4 Declaration, in order to promote balanced economic growth and co-prosperity of the nation. As a first step, the two sides agreed to adopt practical steps towards the connection and modernization of the railways and roads on the eastern transportation corridor such as Gyeongui and Sinuiju for their utilization in the future.

2. South and North Korea will make joint efforts to alleviate the acute military tension and practically eliminate the danger of war on the Korean Peninsula. Alleviating the military tension and eliminating the danger of war is a highly significant challenge directly linked to the fate of the Korean people and also a vital task in guaranteeing their peaceful and stable lives.

(1) South and North Korea agreed to completely cease all hostile acts against each other in every domain, including land, air and sea, that are the source of military tension and conflict.



In this vein, the two sides agreed to transform the DMZ into a peace zone in a genuine sense by ceasing as of May 1 this year all hostile acts and eliminating their means, including broadcasting through loudspeakers and distribution of leaflets, in the areas along the Military Demarcation Line between North and South Korea.

(2) South and North Korea agreed to devise a practical scheme to turn the areas around the Northern Limit Line in the West Sea into a maritime peace zone in order to prevent accidental military clashes and guarantee safe fishing activities.

(3) South and North Korea agreed to take various military measures to ensure active mutual cooperation, exchanges, visits and contacts. The two sides agreed to hold frequent meetings between military authorities, including the Defense Ministers Meeting, in order to immediately discuss and solve military issues that arise between them. In this regard, the two sides agreed to first convene military talks at the rank of general in May.

***3. South and North Korea** will actively cooperate to establish a permanent and solid peace regime on the Korean Peninsula. Bringing an end to the current unnatural state of Korean Armistice Agreement and establishing a robust peace regime on the Korean Peninsula is a historical mission that must not be delayed any further.*

(1) South and North Korea reaffirmed the Non-Aggression Agreement that precludes the use of force in any form against each other, and agreed to strictly adhere to this Agreement.

(2) South and North Korea agreed to carry out disarmament in a phased manner, as military tension is alleviated and substantial progress is made in military confidence-building.

(3) During this year that marks the 65th anniversary of the Korean Armistice Agreement, South and North Korea agreed to actively pursue trilateral meetings involving the two Koreas and the United States, or quadrilateral meetings involving the two Koreas, the United States and China with a view to declaring an end to the Korean War, turning the Korean Armistice Agreement into a peace treaty, and establishing a permanent and solid peace regime.

(4) South and North Korea confirmed the common goal of realizing, through complete denuclearization, a nuclear-free Korean Peninsula. South and North Korea shared the view that the voluntary measures being initiated by North Korea are very meaningful and crucial for the denuclearization of the Korean Peninsula and agreed to carry out their respective roles and responsibilities in this regard. South and North Korea agreed to actively seek the support and cooperation of the international community for the denuclearization of the Korean Peninsula.

The two leaders agreed, through regular meetings and direct telephone conversations, to hold frequent and candid discussions on issues vital to the nation, to strengthen mutual trust and to jointly endeavor to strengthen the positive momentum towards continuous advancement of inter-Korean relations as well as peace, prosperity and reunification of the Korean Peninsula.

In this context, President Moon Jae-in agreed to visit Pyongyang this fall.

April 27, 2018

Done in Panmunjom

(signed) Moon Jae-in, President, The Republic of Korea

(signed) Kim Jong-un, Chairman, State Affairs Commission, The Democratic People's Republic of Korea



Guideline of the Corporate Governance Report (March 2022)

(Core Principle 1) Shareholders' Right

- **Shareholders should be provided with sufficient information for the exercise of rights in a timely manner and be able to exercise their rights in proper procedures.**

The enterprise shall provide sufficient information on the date, place, agenda, etc. of the general shareholders' meeting to the shareholders before a sufficient period of time (4 weeks).

Shareholders should participate in the general shareholders' meeting as much as possible to express their opinions.

Businesses should allow shareholders to easily propose agenda items at the general meeting of shareholders, and should allow them to freely inquire about and explain the agenda items at the general meeting of shareholders.

Companies shall prepare mid- to long-term shareholder return policies and future plans, including dividends, and guide them to shareholders.

Shareholders' rights to receive appropriate levels of dividends, etc. based on shareholder return policies and future plans, etc. should be respected.

(Core Principle 2) Fair Treatment of Shareholders

- **Shareholders should be given fair voting rights according to the type and number of stocks they hold, and efforts should be made to establish a system that provides shareholders with company information fairly.**

Companies shall ensure that shareholders' voting rights are not violated, and shall provide shareholders with corporate information in a timely, sufficient and fair manner.

A company shall prepare and operate a mechanism to protect its shareholders from unfair insider transactions by other shareholders, such as controlling shareholders, and their own transactions.

Companies shall adopt measures to protect shareholders, such as collecting opinions of minority shareholders and protecting the rights of opposing shareholders, in the case of changes in the ownership structure or major business of the company such as merger, business transfer, spin-off, comprehensive exchange and transfer of stocks.

(Core Principle 3) Board function

- **The board of directors should determine the business goals and strategies of the company for the benefit of the company and shareholders, and effectively supervise the management.**

The board of directors must effectively perform the management decision-making function and the management supervision function.

The board of directors shall prepare and operate a policy for succession of CEOs (including an emergency appointment policy), and shall continuously improve and supplement them.

The BOD must prepare and operate internal control policies (risk management, compliance management, internal accounting management, disclosure information management, etc.) and continuously improve and supplement it.

(Core Principle 4) Composition of Board of Directors

▪ **The board of directors should be organized to efficiently make decisions and supervise management, and directors should be appointed through transparent procedures that can broadly reflect various shareholder opinions.**

The BOD must be structured to enable effective and thoughtful discussion and decision-making, and must have a sufficient number of outside directors to function independently from the management and controlling shareholders.

The board of directors must be composed of competent persons with expertise and responsibilities in various fields in terms of knowledge and experience so that they can make a substantial contribution to corporate management.

Fairness and independence must be ensured in the process of recommending and appointing director candidates.

A person responsible for damaging corporate value or infringing shareholder rights shall not be appointed as an executive.

(Core Principle 5) Responsibilities of Outside Directors

▪ **Outside directors should be able to independently participate in important corporate management policy decisions and supervise and support the management as a member of the board of directors.**

Outside directors must not have a significant interest in the company, and the company must confirm whether there is an interest in the company at the stage of appointment.

Outside directors shall devote sufficient time and effort to perform their duties faithfully..

A company shall provide sufficient information and resources necessary for outside directors to perform their duties.

(Core Principle 6) Evaluation of Outside Director Activities

▪ **In order to induce active performance of duties by outside directors, their activities should be evaluated fairly, and remuneration and re-appointment decisions should be made based on the results.**

Evaluation of outside directors must be based on individual performance, and the evaluation results must be reflected in the re-appointment decision.

Remuneration for outside directors should be determined at an appropriate level in consideration of the evaluation results and the responsibilities and risks of performing their duties.

(Core Principle 7) Board of Directors

▪ **The board of directors must be operated efficiently and rationally so that it can determine the best management decision for the benefit of the company and shareholders.**

The board of directors should be held regularly, and the board of directors operation regulations should be prepared that specifically stipulates the powers, responsibilities, and operating procedures of the board of directors.

The board of directors shall prepare minutes in detail at each meeting and disclose the details of activities such as the attendance rate of the board of directors and pros and cons of the agenda.

(Core Principle 8) Committees within the Board of Directors

▪ **The board of directors shall establish a committee that performs specific functions and roles within it for efficient operation.**

The committee within the board of directors shall consist of a more than half of outside directors, but the audit committee and the compensation (reward) committee shall consist 100% of outside directors.

The organization, operation, and authority of all committees must be stipulated in written form, and the committee must report its resolutions to the board of directors.

(Core Principle 9) Internal Audit Organization

▪ **Internal audit organizations such as the audit committee and auditors must faithfully conduct audits independently from the management and controlling shareholders, and the main activities of the internal audit organization must be disclosed.**

Internal audit organizations such as the audit committee and auditors must secure independence and professionalism.

Internal audit organizations such as the audit committee and auditor must faithfully conduct audit-related tasks, such as holding regular meetings, and disclose the details of their activities in a transparent manner.

(Core Principle 10) External Auditor

- **External auditor shall perform audit work fairly independently of the audited company and its management and controlling shareholders so that the accounting information of the company can be trusted by its users, such as shareholders.**

When appointing an external auditor, the internal audit organization shall prepare and operate policies to secure independence and expertise.

The internal audit organization shall communicate with the external auditor regularly at all stages, including conducting external audits and reporting audit results.

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