

Outlook 2023

Another year of drama?



Outlook 2023—Another year of drama?

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A blue pen is pointing at a bar chart on a document. The chart consists of several bars of varying heights, each divided into three segments of yellow, red, and blue. The bars are arranged in a sequence that generally increases in height from left to right, with a slight dip in the middle. The document is placed on a wooden surface.

What the analysts say

Understanding the market

What the analysts say...

The end of cheap capital - combined with worsening macroeconomic conditions, the war in Ukraine, raw material uncertainties, and the continuing chip shortage - will combine to mark 2023 as the beginning of an era when demand-side considerations replace the current supply-side fixation.

S&P Global
Mobility

**THE AGE
OF DISRUPTION**

AlixPartners predicts supply chain issues to last through 2024; EV costs grow

NORMAL IS OVER...

AlixPartners

Automotive News

Forbes

AUTOS

2023 could be another difficult year for the auto industry – here's why

CNBC

Europe's Carmakers Brace For 2023, While VW Volume Brands Could Lose Money

AUTOMOTIVE & INDUSTRIALS



Production Cuts Expected to Continue in 2023, with No Clear End in Sight for the Chip Shortage or Supply Chain Issues; Macroeconomic Forces Creating Uncertainty for Vehicle Sales

In conversation with Sam Fiorani, VP, Global Vehicle Forecasting, AFS

AutoForecastSolutions



Question: China & Taiwan potential clash: If this does take place, what amount of disruption should we anticipate in terms of volume affected?



Sam Fiorani

VP, Global Vehicle Forecasting
25+ years

Sam Fiorani : “Just like the Russia/Ukraine situation, a skirmish between China and Taiwan **would greatly disrupt the global automotive industry**. Both countries are important cogs in the global automotive supply machine.

Interruptions in China caused by COVID provided a sample of how important the country is to production of vehicles around the world. If Japan, South Korea, North America, and Europe were forced to choose sides between China and Taiwan, **vehicle output would immediately take a hit** as alternative sources of parts are sought.

Unlike the issues with Ukrainian parts sourcing, components coming from China and Taiwan will be difficult to re-source. The volume of chips from Taiwan is so great that finding alternative sources will not happen quickly, even after the lessons learned from the recent semiconductor problems.

Significant interruptions of this output will immediately slash global production of vehicles by 10 million units or more.”



In conversation with Sam Fiorani, AFScont'd

Question: Covid-19 continues: With China grappling to contain the outbreak will this affect all types of production there and without effective vaccinations how soon will it end? Are OEMs looking at contingency plans? Tesla planning production in S. Korea, for example.

Sam Fiorani: "With or without effective vaccinations, the world is adapting to live with COVID-19 and its variants.

As herd immunity develops, the population will co-exist with the virus unless a new, more deadly, strain emerges.

The sheer size of the Chinese market makes it important to all of the global brands and this requires local production. Sourcing vehicles for that market from other countries makes those products uncompetitively expensive for the vast majority of segments, outside of low-volume exotic models.

Any significant player in China looking for production outside of the country will focus those plants on export markets and are not likely to ship to Chinese buyers."

Question: Russia Ukraine War—will this get worse and will it continue to affect energy prices? Leoni and other wire harness suppliers seem to have weathered the storm and got on with using contingency supply strategies but these were only intended for short term?

Sam Fiorani: "Core OPEC members can use the sanctions against Russia as a rationale to keep oil prices high. By not replacing the lost Russian petroleum supply, prices rise and profits for OPEC members soar. Europe has attempted to curb this supply and demand problem by restricting the prices paid for Russian petroleum, but the demand still remains high pushing the price from other countries higher.

As the conflict wears on, **vehicle manufacturers will need to secure longer-term supplies of components once supplied by Ukraine.** In the unlikely event that a permanent treaty is in place between Russia and Ukraine, the instability in the region will remain and the benefits of sourcing parts from Ukraine will be offset by the continuing risk that the supply chain could be interrupted again. **While initially expected to be a short-term solution, the re-sourcing of components will increasingly become permanent solutions as the conflict stretches out."**

In conversation with Sam Fiorani, VP, Global Vehicle Forecasting, AFScont'd

AutoForecastSolutions



Question: Rising inflation rates, rising interest rates as well – will people tighten their belts and reduce purchases? Or is pent up demand sufficient to mitigate the obstruction from higher inflation and the cost of living crisis?

Sam Fiorani: *“Rumors of a global recession transition into reality when consumers believe the stories and begin to tighten their belts. Expensive purchases, such as new vehicles, are the first to be delayed.*

As prices have risen, many buyers who were considered to be part of the “pent-up demand” for vehicles have moved out of the market.

More durable and reliable cars and trucks have allowed drivers to keep their vehicles longer and rely on pre-owned vehicles even more. The average age of vehicles on the road will continue to rise, making used vehicles more valuable and making the maintenance and repair of older models more cost-effective for their owners.

*This price shift is only exasperating the slower global production growth of vehicles, which was already anticipated with the coming wave of mechanically simpler electric vehicles. The price of vehicles outpacing wage growth, combined with vehicles that last longer, will stifle the expansion of the global automotive market, **tempering volume growth in the long term.**”*



The latest numbers on the microchip shortage: 2.7M vehicle cuts forecast for 2023

For 2023, AutoForecast Solutions estimates more than 2.7 million vehicles will be cut from productions schedules because of the global semiconductor shortage.

For 2023, AutoForecast Solutions estimates more than 2.7 million vehicles will be cut from automakers' production schedules because of the global semiconductor shortage.



	2023 Year to Date Lost Production	2023 Projected Lost Production
North America	24,700	907,500
Europe	11,700	793,000
Rest of Asia	170,000	718,600
South America	13,000	138,400
China	200	194,200
Middle East/Africa	0	21,300
Total	219,700	2,773,000

	2022 Lost Production
North America	1,546,700
Europe	1,555,300
Rest of Asia	880,700
South America	218,400
China	234,100
Middle East/Africa	50,200
Total	4,485,300

	2021 Lost Production
North America	3.1m
Europe	3m
Rest of Asia	1.74m
South America	
China	1.98m
Middle East/Africa	
Total	10.2m

For more info please contact:

Sam Fiorani
Vice President
Global Vehicle Forecasting
AutoForecast Solutions LLC
243 Byers Road
Chester Springs, PA 19425
Office: (610) 813-6372
Cell: (484) 410-4132
Email: sfiorani@autoforecastsolutions.com
Web: www.autoforecastsolutions.com
Twitter: <https://twitter.com/SamFiorani>
LinkedIn: <https://www.linkedin.com/in/samfiorani/>



Sam Fiorani
 VP, Global Vehicle Forecasting
 25+ years

In conversation with Philip Nothard, Insight & Strategy Director, Cox Automotive

COX AUTOMOTIVE



Philip Nothard
Insight and Strategy Director
at Cox Automotive

New players are looking to gain traction in Europe's passenger car market. Do you feel consumers in Europe are more open to non-European brands today?

Philip Nothard, Insight & Strategy Director, Cox Automotive: *The game has changed when it comes to popular automotive brands. Consumers are open-minded and less swayed by brand heritage in the EV space. With newer contenders -- including independent startups and those backed by global conglomerates – we are likely to see a unique automotive “brandscape” emerge.*

With high inflation and a cost of living crisis gripping Europe, many legacy brands have moved to high price point vehicles—will the new entrants be able to gain marketshare in Europe?

Philip Nothard : *The automotive sector should expect a period of shifting ownership and brand affiliation in 2023, as affordability begins to precede desirability.*



In conversation with Philip Nothard, Insight & Strategy Director, Cox Automotive...cont'd

Are consumers in Europe less concerned about where their vehicles are made than, say, a decade ago?

Philip Nothard: *As newer brands from China look to gain a foothold in the global market, the sector can expect to see Chinese manufacturers fill market gaps left by established OEMs as they step away from affordable but ultimately unprofitable legacy models. This means, for now, many Chinese manufacturers will be focused on offering ICE and Hybrid models, as well as EVs.*

The dealership landscape is indeed changing with many 'new' players offering vehicles under the 'subscription' model--will this change the way people buy cars, or will this be a short-lived experiment?

Philip Nothard: *The sector is entering a new era of significant change amid shortening lead times, where supply is significantly below normal pre-pandemic levels. There has been a notable shift in how consumers are accessing vehicles, as well as the types of vehicles that are in demand. While passenger cars will always remain a necessity, higher interest rates and affordability represent important obstacles for the market in 2023. As a result, the sector will likely see a continued preference towards affordable used cars as new vehicles become out of reach for many. **Likewise, subscription models haven't quite taken off, and many still favour a two- or three-year Personal Contract Purchase (PCP).** So, although the high demand for used cars has somewhat levelled, it's a market that remains very safe for now.*



House of Cards Effect

Impact of Covid on China

How bad is China's covid outbreak?

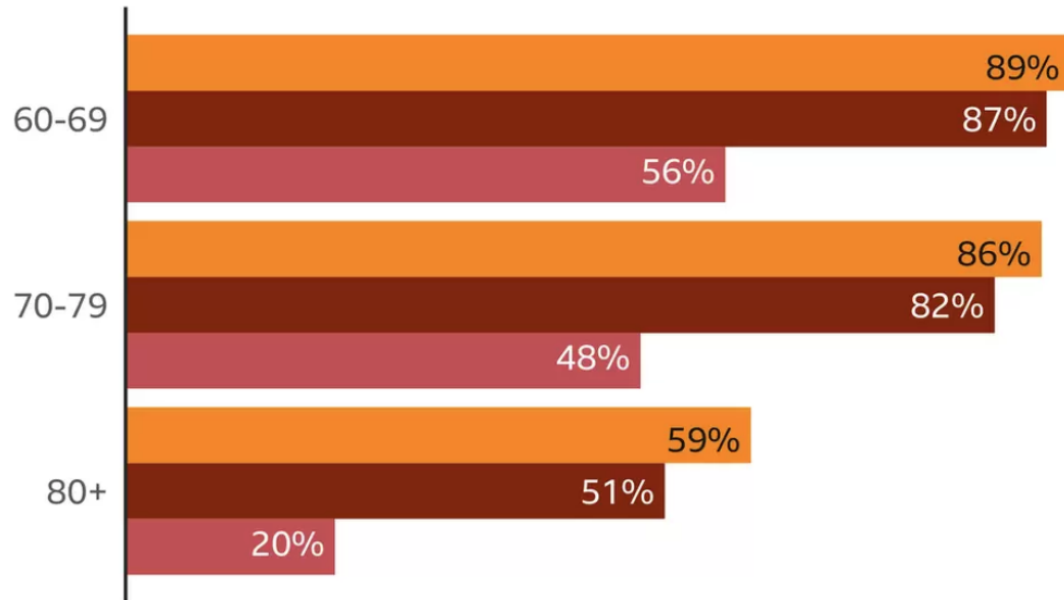
How many people have been infected?

So far, there are no reliable national figures for the number of people among China's 1.4 billion population who have been infected in the current outbreak. After admitting the difficulty of tracking infections, China's National Health Commission stopped reporting daily tallies in December.

Lower vaccination levels in China's over-80s

Percentage of population vaccinated by age group and dose

One dose Two doses Two doses plus booster



Source: Chinese National Health Commission



China crests first infection wave since abandoning zero-COVID

Overloaded hospitals and morgues suggest true death toll is hidden and worst is to come



Statements from local governments indicate that the true number of infections is exponentially higher. Officials in Henan province estimated this week that 89 percent of the province's 99 million residents have been infected. In Zhejiang province, officials said the province was seeing over a million new infections a day in late December. As of Jan. 8, all 31 provinces, municipalities and regions had reported covid infections, according to the CDC.

Too early for accurate COVID-19 death tally, experts say

2023-01-12



Airfinity's COVID-19 Forecast For China Infections And Deaths

Daily Infections: 3.73 million

Daily deaths: 21,300

Cumulative cases since 1st December: 58.1 million

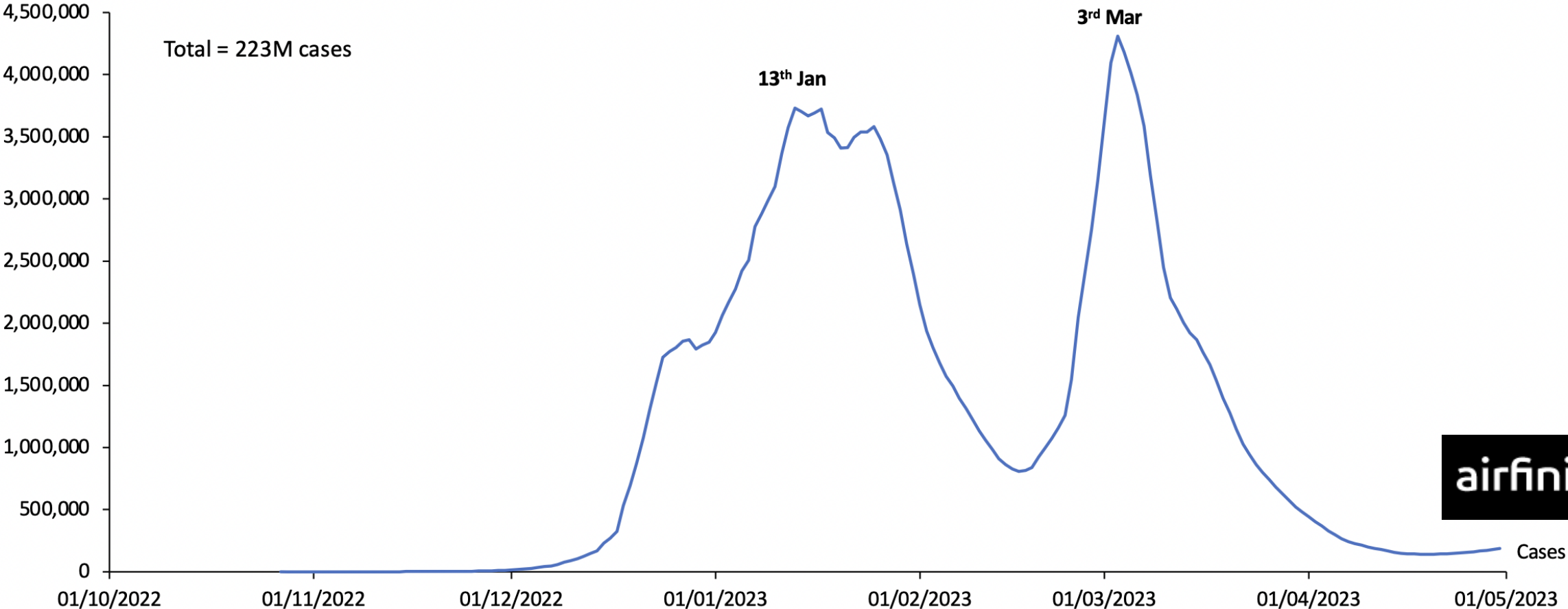
Cumulative deaths since 1st December: 345,560

Data last updated on 13th January 2023

Airfinity is forecasting COVID-19 infections to reach their first peak in China on the 13th January with **3.7 million cases a day**. Deaths are estimated to peak 10 days later at approximately 25,000 a day, by that stage a total of 584,000 since the virus began surging across the country in December. We predict 1.7 million deaths across China by the end of April 2023.

Our model estimates a second peak will occur on the 3rd March 2023 where daily cases are likely to **reach 4.2 million a day**. It is expected that rural areas will be more impacted in this later wave.

Forecasted COVID-19 cases in China



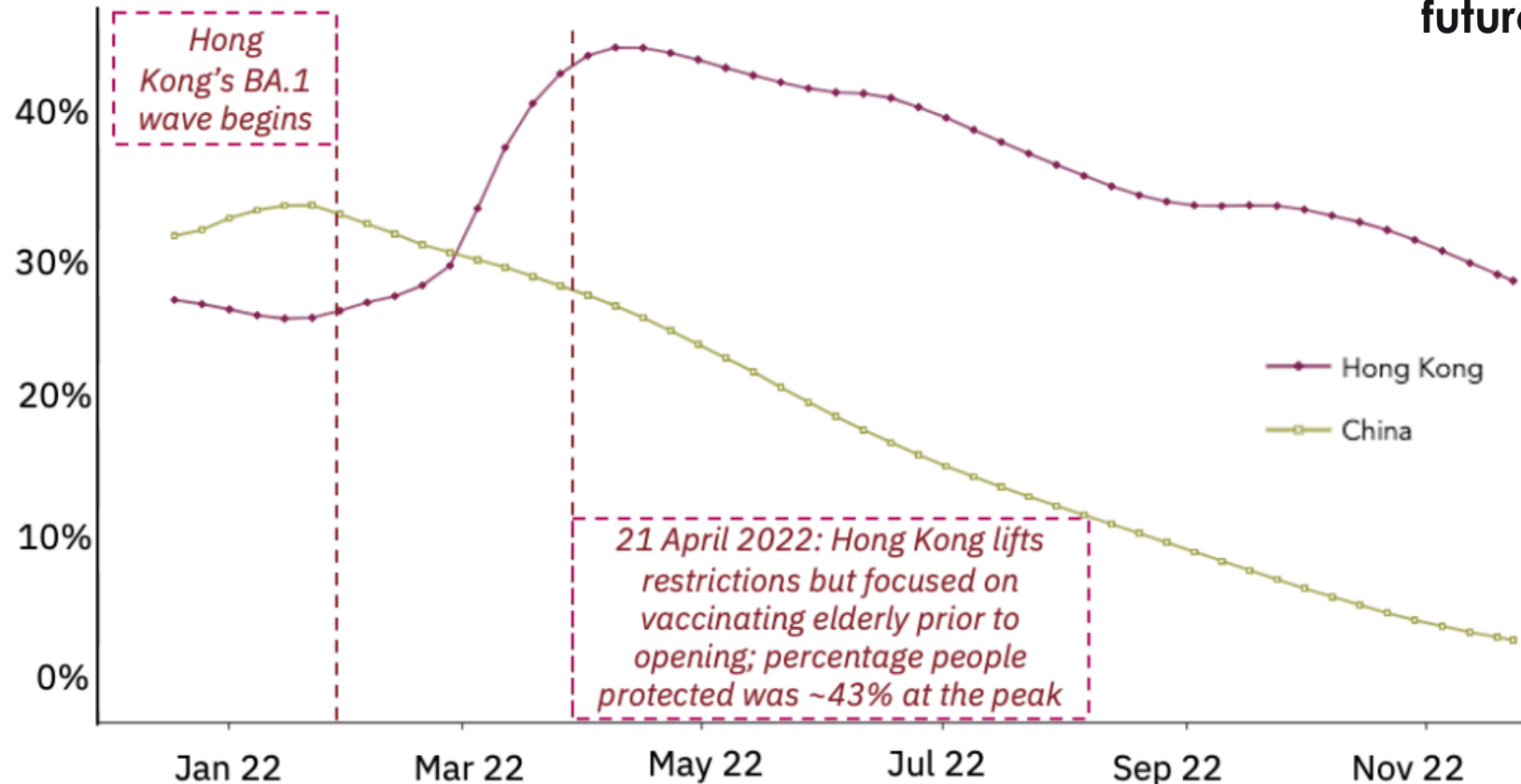
China risks between 1.3 and 2.1 million deaths if it ends its zero-COVID strategy

airfinity

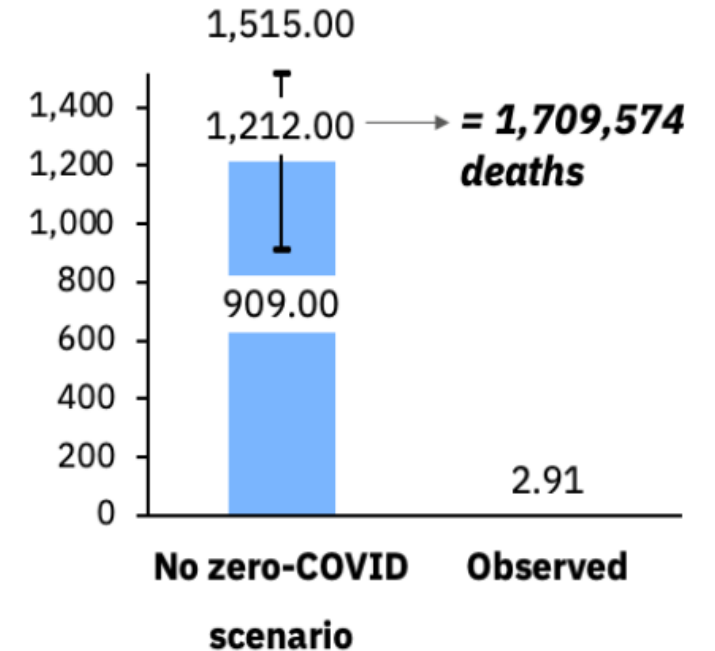
Posted on Nov 28, 2022

Airfinity's Head of Vaccines and Epidemiology Dr Louise Blair says, "It is essential for China to ramp up vaccinations to raise immunity in order to lift its zero-COVID policy, especially given how large its elderly population is. Subsequently, China would need hybrid immunity to allow for the country to brace future waves with minimal impact."

Percentage of people protected against Omicron infection



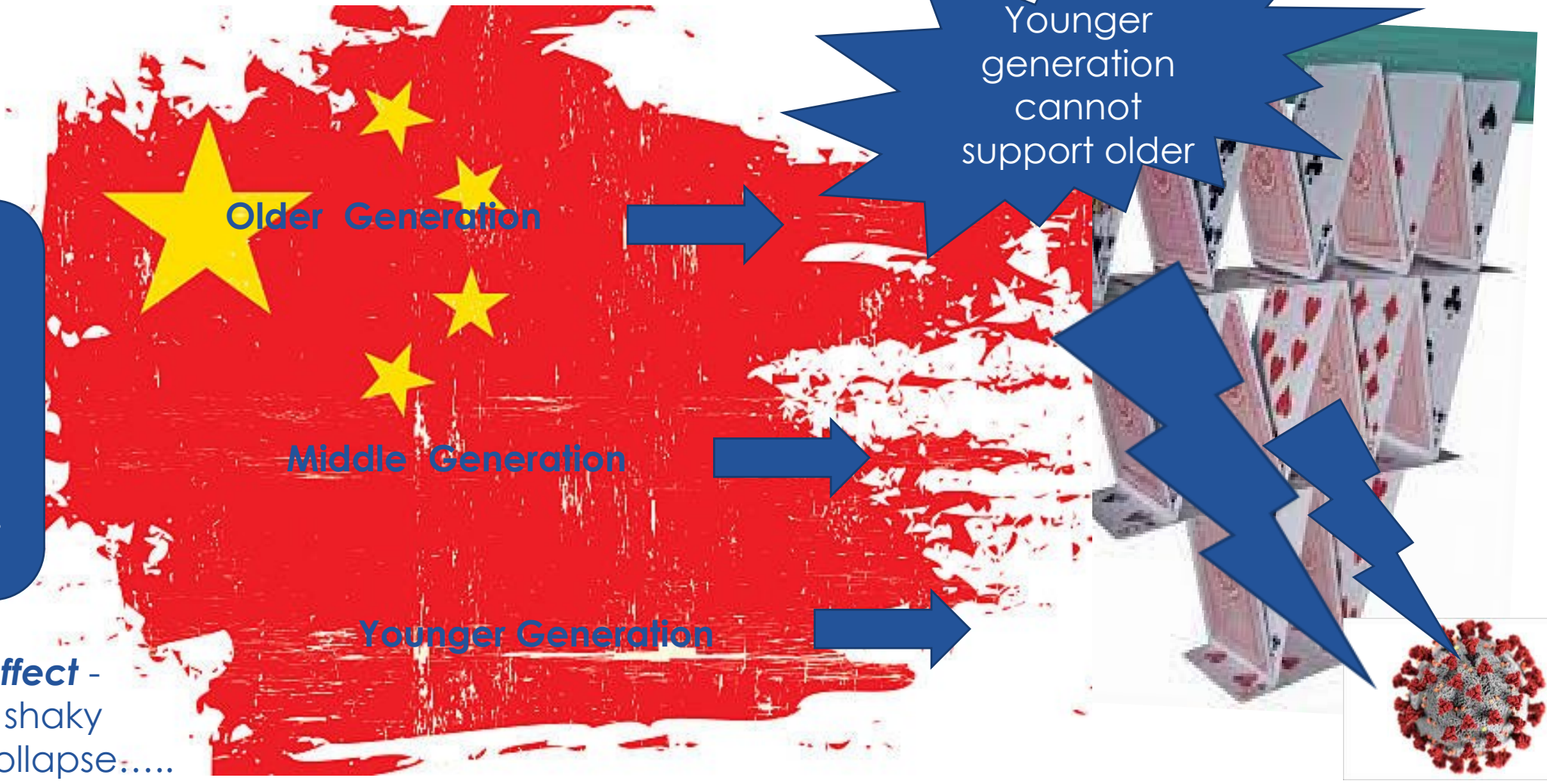
Deaths per million



House of Cards Effect

Lack of 'effective' Covid vaccines will lead to a 'House of cards' effect

House of Cards effect - structure built on shaky foundation will collapse.....



Population already declining....



Blow for China's economy as population falls

The last time China's population plummeted was in the 1960s, when the country endured the worst famine in its modern history

Here's why China's population dropped for the first time in decades

China's infamous one-child policy limited births for decades

The COVID pandemic also put a strain on China's fertility rate

China will not have enough people of working age to fuel growth

January 17, 2023

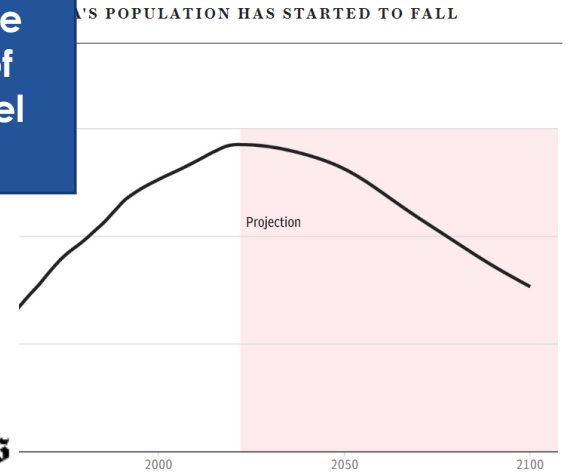


China's Population Falls, Heralding a Demographic Crisis

Deaths outnumbered births last year for the first time in six decades. Experts see major implications for China, its economy and the world.

The New York Times

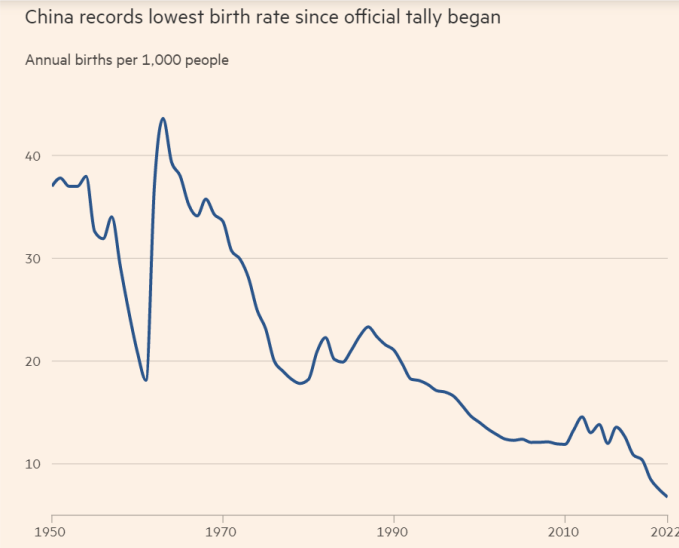
The Telegraph



China's population falls in historic shift

First decline in 60 years set to have long-term consequences for domestic and global economies

China's strict zero-Covid policy of containing coronavirus is widely seen to have accelerated the fall in the country's birth rate, as couples delayed or decided against having children during the health crisis and economic slowdown. Last year, 9.56mn babies were born, down from 10.62mn the previous year.



Cheaper Labour source—not for much longer...



Lack of transparency hinders true picture

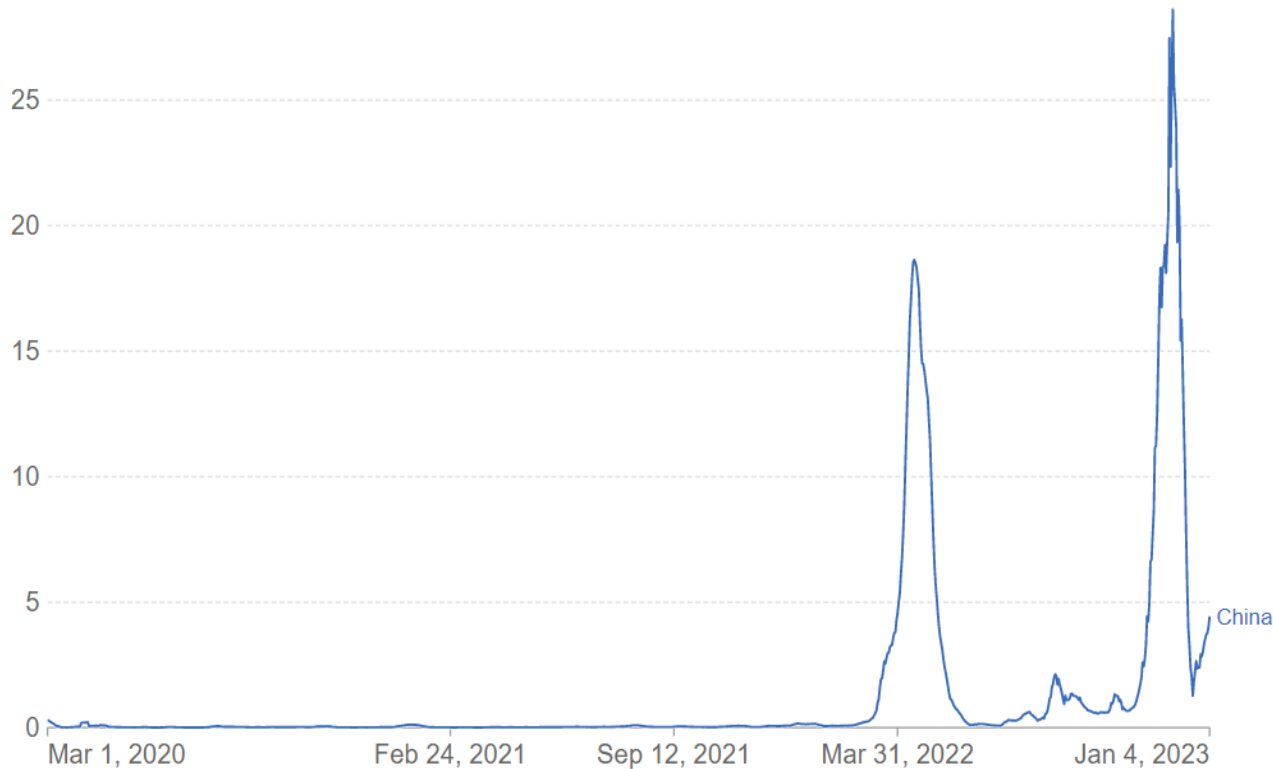
FINANCIAL TIMES

Relatives angry as Covid kept off Chinese death certificates: 'What are you trying to hide?'

Daily new confirmed COVID-19 cases per million people

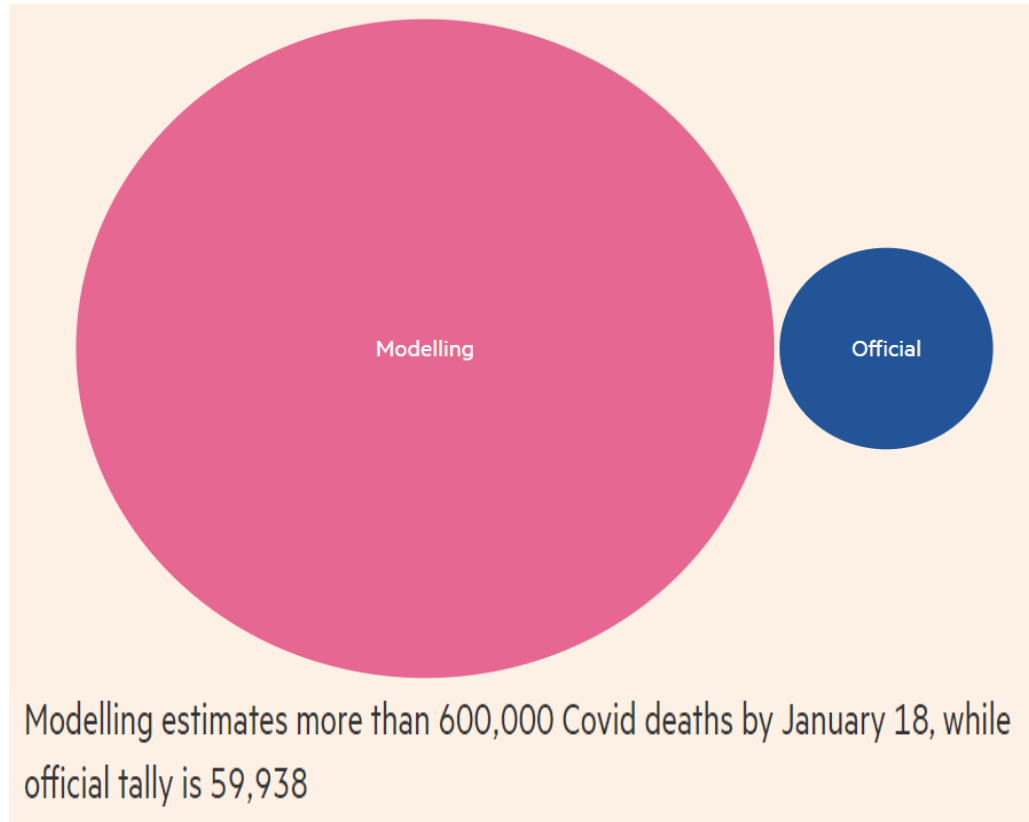
7-day rolling average. Due to limited testing, the number of confirmed cases is lower than the true number of infections.

Our World in Data



Source: Johns Hopkins University CSSE COVID-19 Data

CC BY



China Catching Covid affects Supply Chain

China's new Covid surge is crippling the world's most important factories and biggest ports

JAN 6 2023



China's Zero-Covid Exit And The Potential For 2023 Supply Chain Disruptions

Forbes

China's Sudden Shift on Zero-Covid Puts Supply Chains at Risk Again

BARRON'S

- Factory cities: 10,000 - 50,000 workers living on campus
 - High density, shared communal facilities
 - One main annual holiday –Chinese New Year
 - Chance to visit children being looked after by grandparents (i.e. older generation).
- High global dependency on China
 - OEMs looking to alternative bases
 - Suppliers looking to diversify bases
 - But—today,
if **China sneezes we all catch a cold**

Major China Port Banks on Robots to Beat Post-Covid Disruptions

- Tianjin port wants to fully automate its dock operations
- Ports look to build supply chain resilience after Covid

- **COVID –main concern is China's link to the world –expect disruption at:**

- **Ports –China's export ports Components—for automotive production**

Temporary Service adjustments for DHL Express Time Definite International services arising from the COVID-19 pandemic situation as of the 20 of Jan 2023



DHL EXPRESS



Please note, as the situation is dynamic, the information is subject to change without notice.

Covid Continues to Affect Supply Chain in China

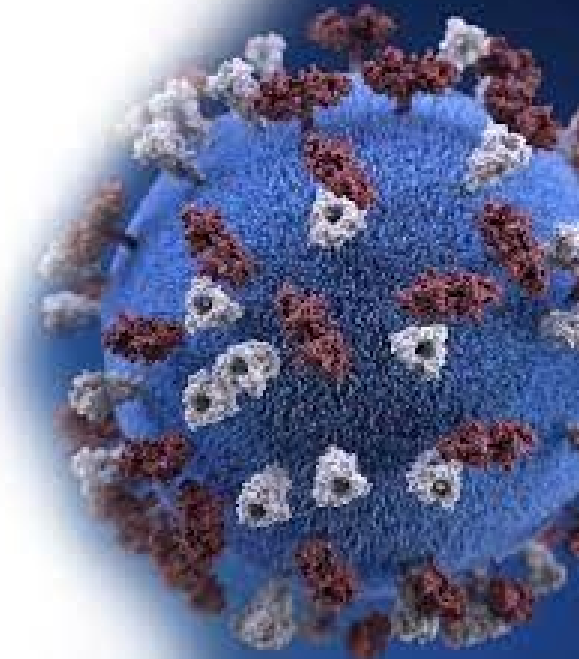
- Factories cannot complete orders – surge in Covid cases, workers off sick causing missed deadlines
- Forecasts estimate Covid peak on 3rd March
- Logistics managers warn that unfinished orders cause delay in delivery to ports for export
- Expect pickup only after Lunar New Year—early February
- Ports: Shanghai, Shenzhen, Ningbo, Qingdao all have ¼ labour force due to Covid outbreak, and only 30-40% of factory orders completed
 - Dwell time at ports rising, causing congestion





Impacts of War, Covid

Clashes could kill supply chain



TRUCK



SHIP



COMPOUND



RAIL



BARGE



China Vs Taiwan tension— can supply chain adjust?

- **OEMs, suppliers make plans**



- Tesla, BYD plan production in Indonesia
- Hyundai, SAIC, SGMW already opened plants in Indonesia



- Component makers move to Vietnam

BYD plans Vietnam component factory, report says

Move underscores wider trend by manufacturers to reduce exposure to China amid trade tensions with the U.S. and production disruptions caused by Beijing's previous COVID-19 lockdowns.

January 13, 2023

Automotive News China

DP World Chief Urges US and China to Ease Trade Tensions

17 January 2023

Bloomberg

Indonesia close to EV deals with BYD Group and Tesla - minister



Will Korea host Tesla 'gigafactory'?

Japan, Indonesia to compete head-on; Korea secures upper hand in terms of supplier ecosystem

The Korea Herald

Apple To Diversify Its Supply Chain By Producing MacBooks In Vietnam

Forbes

After relying solely on China to manufacture its products, Apple has decided to diversify its production. With new factories in India and Vietnam, Apple is seeking to limit the disruptions it has recently experienced.

Vietnam prepares for supply chain changes...



Peter Sundara
Global Head of Ocean Freight at a major Singapore-based cargo owner



*“ With Maersk and MSC beefing up their deep sea capacities in anticipation of increased volume from Vietnamese ports to the USWC and USEC; and Cosco and OOCL offering direct service from North Vietnam port of Haiphong via Suez Canal, Vietnam *vn* has become a force to reckon inspite of the subdued global cargo demand.*

These carriers are clearly expecting exports from Vietnam to the US to double as production gradually moves from China to Vietnam. *“About 3.4 million TEU of deep-sea capacity called at Vietnamese ports in the fourth quarter of last year, a 21 percent increase from Q4 2021, according to figures from the MDS Transmodal Containership Databank.”*

Vietnam sees surge in deep-sea vessel capacity amid trade sourcing shift  | Journal of Commerce

China’s role in global manufacturing under pressure as more European firms look to Vietnam and India, surveys show

 China Macro Economy

The ongoing effort to diversify sourcing and not become totally dependent on one country has motivated European investors to invest in Vietnam

Alain Cany Chairman of Jardine Matheson Vietnam

Vietnam emerges as an attractive alternative location for supply chain diversification

Indonesia prepares for greater supply chain role

Tuesday, January 24, 2023

Intermodal solutions - Indonesia by rail through Jakarta **CMA CGM**



INTERMODAL | INDONESIA BY RAIL

CMA CGM Group Inland & Transport Solution



CMA CGM Strengths

- We are the sole carrier to provide Rail Transport Solutions in Indonesia strategic locations
- 10 core maritime services connecting Semarang and Surabaya to Jakarta by Rail in 1 day
- Cargo export and Import Jababeka and Cikarang Dry port benefits of rail solution as well in 1 day

Ro-Ro Link With Indonesia Launched By Bahri

SPMT Encourages Transformation in 2023

Loading and unloading of vehicles were also recorded at 1,174,089 units of cars, an increase of 15% from the previous year's realization. (Nov 2022)

Indonesia Inaugurates New Container and Ro/Ro Port Outside Jakarta

Major Construction Works
Jetty: Car Terminal Berth 381m

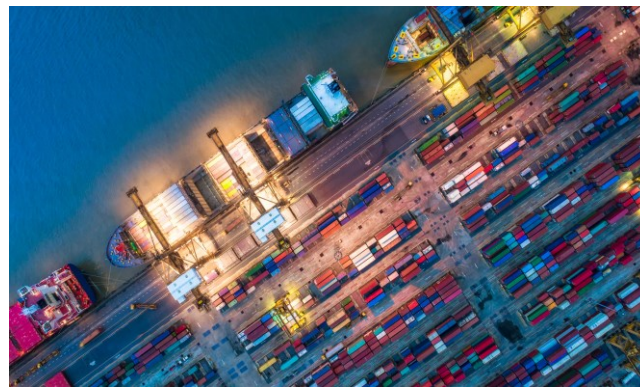


Award of Large-Scale Port Construction in Patimban Port Development Project (Phase II), Indonesia

Dec 23, 2022

Implications to Industry:

- Supply Chain Vulnerability
 - **OEMs & Suppliers start accelerating use of Indonesia, Vietnam**
- Accelerated push for alternative sources
- **Accelerated push by China's Communist Party to counter Covid negative issues to supply chain—fast track, closed loop, cut tariffs,**
 - **Fast track Rail Logistics from China to Europe**
 - **Fast track Rail Logistics from China to Africa**
 - **Cuts port charges, again**
 - **China cuts tariffs on certain goods again, from 1.1.2023**



China to lower highway, port charges to support logistics - state media cites cabinet

China to reduce overall tariff level to 7.3%



CHINADAILY 中国日报网
COM.CN

Starting January 1, the country will impose a provisional import tax rate lower than the "most-favored nation" tariff rate on 1,020 items, including setting tariffs to zero on ingredients of some anti-cancer and anti-COVID drugs to ease the financial burden on patients.

China will also further reduce the "most-favored nation" tax rate on 62 types of information technology products starting from July 1 next year, the commission said in a statement on Thursday.

China launches first-ever intermodal service to Africa

Published on 18-10-2022 at 11:43



DB Cargo Eurasia launches new regular Xi'an-Budapest service

Published on 19-01-2023 at 11:23



New Silk Road record: Xi'an-Duisburg in 10 days with fixed timetable

Published on 09-11-2022 at 07:00



FVL RAIL GAINS

- Brands using rail for transport of NEVs* from China to Europe

- Smart
- Volkswagen
- Honda
- Ford
- Polestar
- NIO
- Hongqi
- Xpeng
- Lantu (Voyah)



- Xian to Duisberg:
 - 15.10.22 Xian International Land Port Group Multimodal Company transports Smart cars to Duisburg (Germany)
- Chengdu to Hamburg:
 - 20.10.22 Chengdu International Railway Express transports NIO cars to Hamburg (Germany)
 - 2 weekly trains carrying Volkswagen, Honda, Ford, Polestar & Nio cars
- Zhengzhou to Minsk:
 - 10.10.22 Zhengzhou International Land Port Company transports Hongqi, Xpeng and Lantu cars to Belarus.

* NEV: New Energy Vehicle (BEV, FCEV, PHEV)

China Railway lifts restrictions on transportation of new energy vehicles



17.09.2022: China lifts restrictions on transport of lithium batteries fitted in vehicles by rail.

Ukraine & Russia disruption continues...



Analysis | Ukraine's New Tanks and Russian Escalation Will Collide in the Spring

Kremlin Warns of Escalation if West Gives Ukraine Longer Range Weapons

The  **Moscow Times**
30 YEARS INDEPENDENT NEWS FROM RUSSIA

'A whole new level' of war if NATO arms Ukraine, Russia warns

 **ALJAZEERA**

 **ECG**
Business Intelligence

The U.S. Has Made a Coldly Logical Decision in Ukraine. So Has Russia.

Jan. 25, 2023

The New York Times

So far this is not a policy designed to completely overwhelm a Russian mobilization or drive the Russians out of Ukraine. It's a policy seemingly intended to blunt any new offensive, to potentially make the Russians lose more ground, and to show Moscow that it can't win a grinding war any more easily than it initially hoped to win a short one. **It's an escalation that assumes the Russians need a little more convincing, and then they'll be open to the de-escalation that we haven't been able to achieve.**

“We are constantly monitoring the situation and considering various scenarios for the future of business operations in Russia. One of the possible options is to sell the assets of Volkswagen Group RUS and thus also the plant in Kaluga to a third party. However, a decision on this has not yet been made, ” Nicolai Laude, Director Litigation Communications, Issue & Incident Communications, Volkswagen Group Communications.

- Volkswagen has taken the decision to largely suspend business activities in Russia as a consequence of the current overall situation and the great uncertainty and upheavals it means. We are keeping a close eye on further developments with the task forces we have set up for that purpose.
- Our employees at the Kaluga plant remain employed by us and continue to be paid a reasonable portion of their wages in compliance with Russian statutory requirements while our business is suspended. The costs of that are borne fully by VOLKSWAGEN Group Rus (VGR).
- We also continue to supply spare parts and fulfill our service, warranty and payment obligations within the bounds permitted by the EU’s sanctions.
- The war in Ukraine temporarily resulted in plant closures at suppliers and, as a consequence, at the Group’s European production sites, too. As soon as the war broke out, the Group Board of Management established a crisis team. Thanks to the quick establishment of alternative production, the supply of the components in question was ensured, production stoppages were reduced and, together with the suppliers, the production of wiring harnesses at other locations outside Ukraine was duplicated.
- The war in Ukraine, the still difficult supply situation as regards semiconductors and the lockdowns in China with the production stoppages and supply-chain problems caused by them are having an overlapping impact on the provision of supplier parts.

Update from Skoda



We try our utmost to inform you as fast and transparent as possible about the current situation in Ukraine.

For this reason, please find below the current set of frequently asked questions.

We will update this page on a regular basis.

Last update: 04.01.2023.

What models and how many do you produce in Ukraine?

We are producing the Superb, Kodiaq, Karoq and the Fabia Combi in Ukraine. Production in Ukraine, which is handled by our business partner Eurocar, has resumed in CW 24 (2022) at the Solomonovo plant. In a first step, Eurocar completed 80 units of the SUV models Kodiaq and Karoq, which were brought from Mladá Boleslav to Ukraine in SKD format. Further vehicles were heading to Ukraine during July, August and September as well.

Taking into consideration this high level of uncertainty and inability to predict any potential restart of production, Volkswagen Group Rus took the decision to start formal process of closing its office in Nizhny Novgorod already on July 5, 2022.

What is Škoda Auto doing to secure the sources of material and components that are either produced in or pass through Ukraine?

We remain fully committed to our Ukrainian partners. Most of them continue with the production – for this, they have our deepest respect. At the same time, in co-operation with them, we have decided to temporarily duplicate production of cable harnesses in some other countries and therefore to ensure smooth production in the long term and also to pre-eliminate possible risks. As the first step of doubling the production, in collaboration with PEKM Kabeltechnik, Škoda Auto has already relocated a part of the production of cable harnesses, including several dozen employees, from Ukraine to Mladá Boleslav. We have also duplicated production of cable harnesses in Morocco.

Final Insights & Outlook

New entrants build up European production,
but will they gain in the long run??

TRUCK



SHIP



COMPOUND



RAIL



BARGE



New Players Seek Stronger Foothold in EUROPEnow!

Ford in talks with China's BYD to sell German plant, report says

Ford builds the compact Focus model at the Saarlouis plant in Germany, which is slated to end in 2025.

January 24, 2023 |

Reuters

Exclusive: Geely plans to turn maker of London black cabs into EV powerhouse

January 23, 2023



Nov 30, 2022 - 12:24 pm

Fisker considers EV production in Europe

"We are currently looking into building the Pear in Europe as well," founder Henrik Fisker told the German publication *Handelsblatt*. This could be done with a partner or alone. The decision is expected to be made in mid-2023. As reported,

electrive.com
industry service for electric mobility



Will new entrants gain?

In discussion with Mario Franjičević, Principal Analyst, S&P Global Mobility



Mario Franjicevic
Principal Analyst - Future Mobility

Q: What is the overall estimate of BEVs in the light vehicle (Passenger Vehicle + Light Commercial Vehicle) market?

Mario Franjičević, S&P Global Mobility: “BEVs in total is forecast to account for more than 50% of global light vehicle production by the mid-2030s. But even with Tesla's continued surge into adding production, new entrants will be unable to scale at a rate that exceeds legacy OEMs' ability to convert existing capacity.”

Q: Who are the players capitalising on 'first-mover' advantage? Will they continue to have a foothold in the global BEV market in ten years time?

Mario Franjičević, S&P Global Mobility: “In 2021, five out of 45 manufacturers accounted for nearly all (89.5%) of the BEV production attributed to new EV players. Tesla accounted for 65%, with the remaining production relatively evenly distributed between start-ups from China: Xpeng EV, NIO, Lixiang Auto, and Hozon EV.”

By 2034, we believe these same players will still account for 80% of disruptor entrants; Tesla will continue to dominate with 53%, and NIO will grow to become the second top producer with 11%.

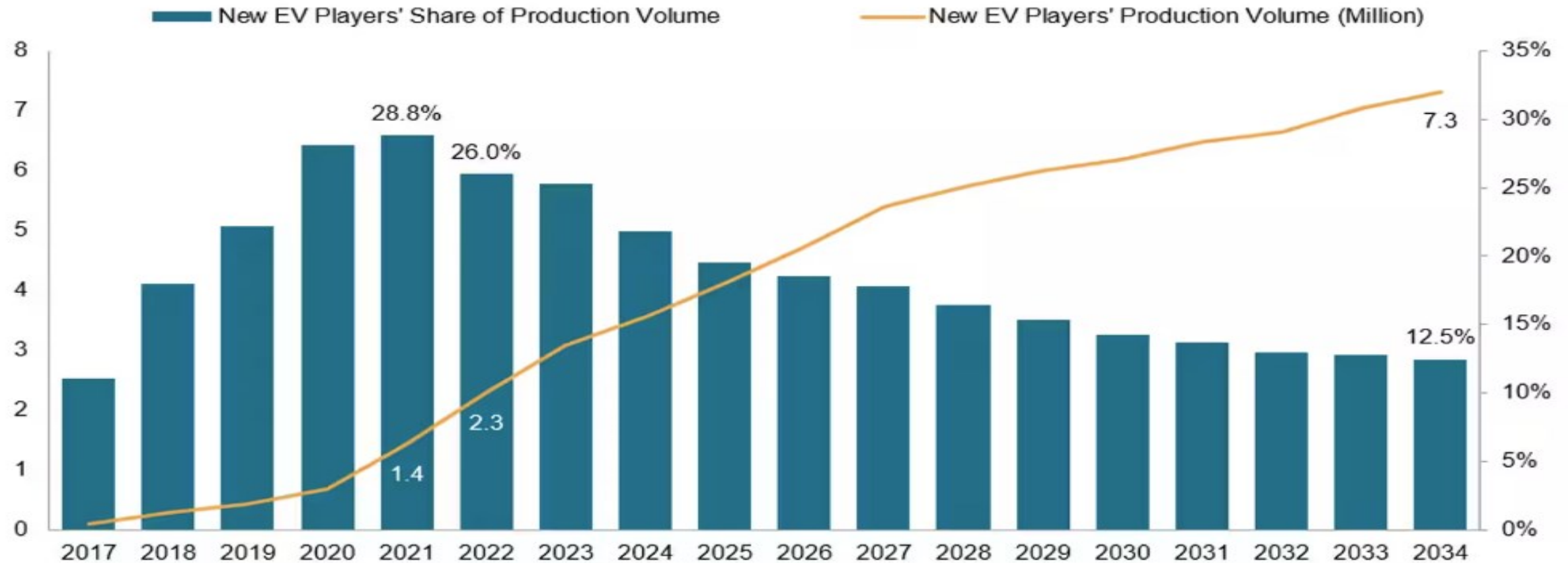
These 5 players are capitalizing on their first-mover advantage. But more recent disruptor entrants will not have such opportunities, as traditional OEMs ramp up their EV offerings and leverage their established branding, dealer networks, and supply chains.”



EV start-ups' share of global BEV market will halve by 2034

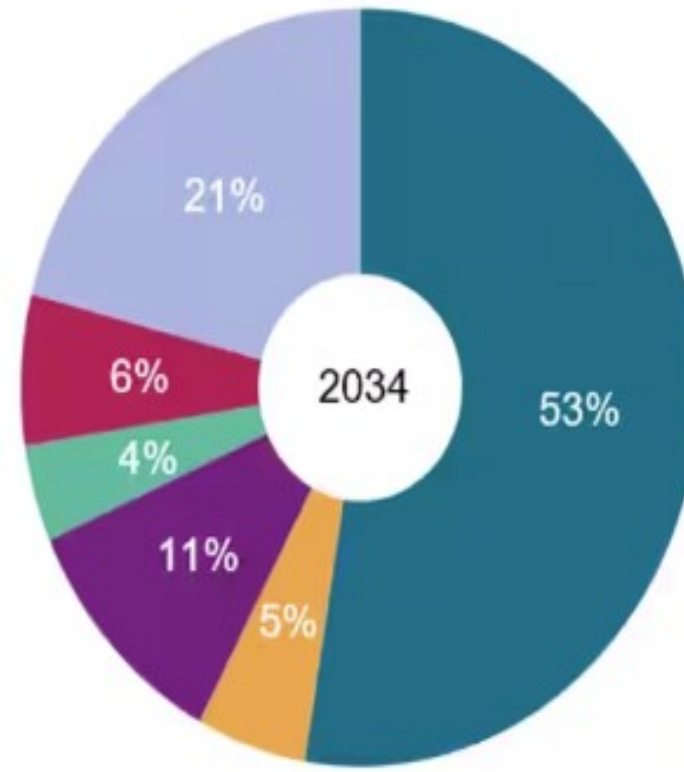
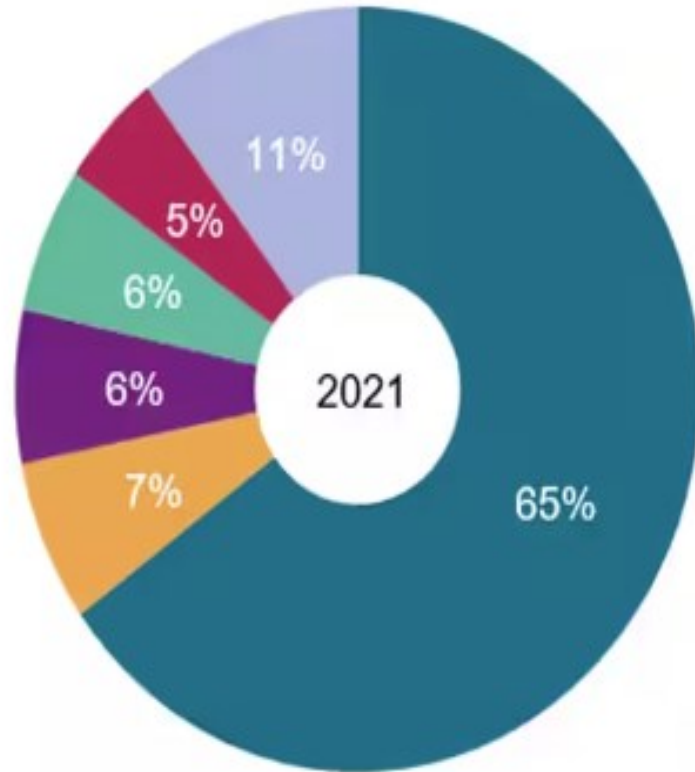
Non-traditional automakers, including Tesla, will produce 7.3 million BEVs annually by 2034 according to our forecasts. But their share of BEVs produced is already receding as legacy automakers scale up and gain share. There is no rebound expected.

New EV Player Production Volume and Share



Source: S&P Global Mobility. MobilityInsight. Light Vehicle Production Forecast November 2022

Production Shares of Top 5 New EV Players, 2021 vs. 2034



- Tesla
- Xpeng EV
- NIO
- Lixiang Auto
- Hozon EV
- Others

Source: S&P Global Mobility. MobilityInsight. Light Vehicle Production Forecast November 2022
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<https://www.spglobal.com/mobility/en/research-analysis/ev-startups-share-of-global-bev-market-will-halve-by-2034.html>



But will Inflation, Cost of Living Crisis, dent demand?

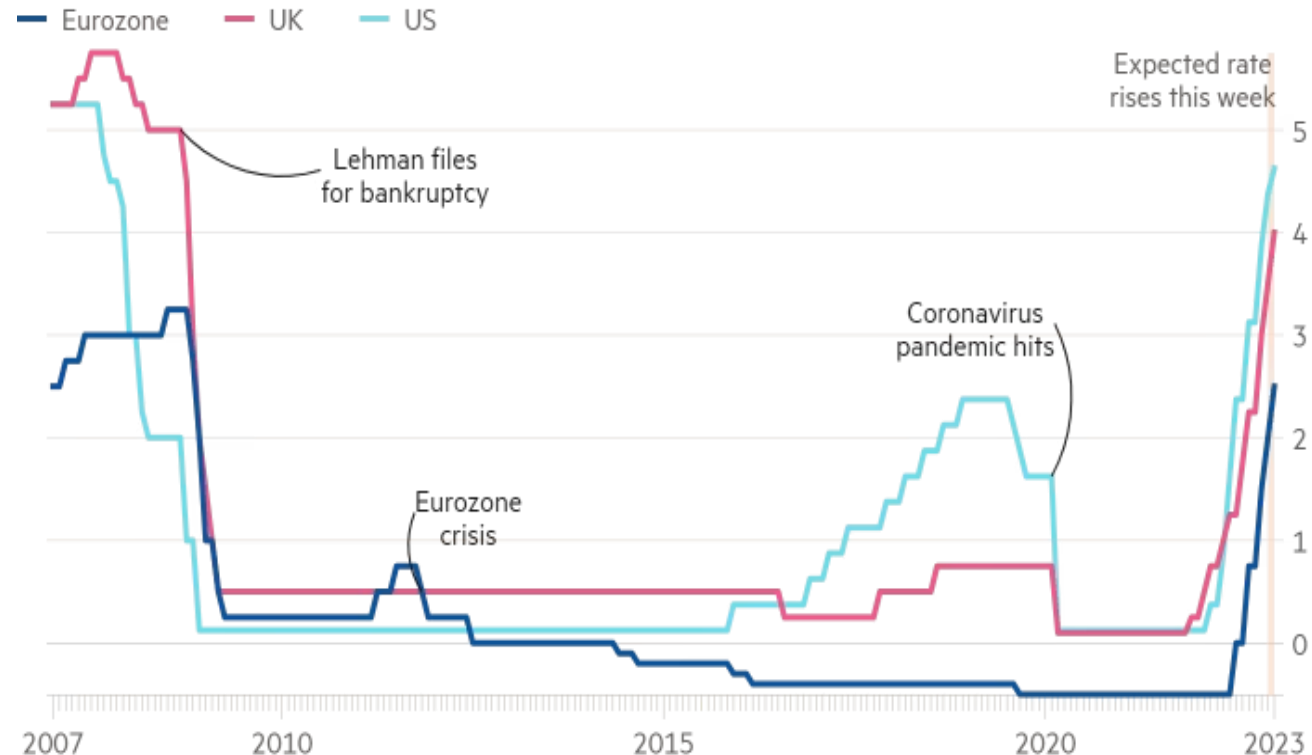
FINANCIAL TIMES

Central banks set to lift interest rates to 15-year highs as investor jitters grow

Concern that bond market rally underestimates growing evidence of persistent inflation

Back to the future

Central banks' key policy rates (% , Jan 2023 is forecast)



Sources: BIS, ECB

© FT

Global new light vehicle sales will reach nearly 83.6 million units in 2023, a 5.6% increase year-over-year.

S&P Global

Western Europe, 2023 demand is forecasted at 13.9 million units (+7.4% y/y)

S&P Global Mobility remains wary on recovery prospects. Destroyed demand is a key feature of the tepid forecast outlook – impacted by a blend of general economic impacts, higher interest rates, tight supply chains, an intensifying affordability squeeze, higher new-car prices, weakening consumer confidence, and heightened energy price/supply concerns.

Conclusion:

- Passenger Vehicle Sales expected to see growth in demand in 2023 in Europe, with growth of around 7%
- New entrants will gain further traction in Europe in 2023
- Supply chain issues continue: chip shortage still ongoing, component shortages to continue
- Increased disruption expected if political tensions grow—China & Taiwan friction would cost 10 million wiped off new vehicle sales forecasts
- Car buyers in Europe enter age of affordability—where price is key—and brand loyalty shifts
- New OEM brands gain traction in the EV space
- Covid hits China, further affecting supply chain and logistics with peak expected to hit in March
- To avoid disruption, port tariffs are eased, rail services allowed to transport lithium when fitted in devices/cars.
- To prepare for disruption,
 - OEMs plan production in Indonesia—see new roro ports and rail expansion
 - Suppliers consider Vietnam to ease dependence on China
- Overall outlook for 2023 is growth in the light vehicle market, but cautious due to high economic instability.



Thank You!

**For further information please contact:
namrita.chow@ecgassociation.eu**

