

SRR PORTFOLIO MANAGER MONTHLY FLIP BOOK

Dec 2021 – China Data Series

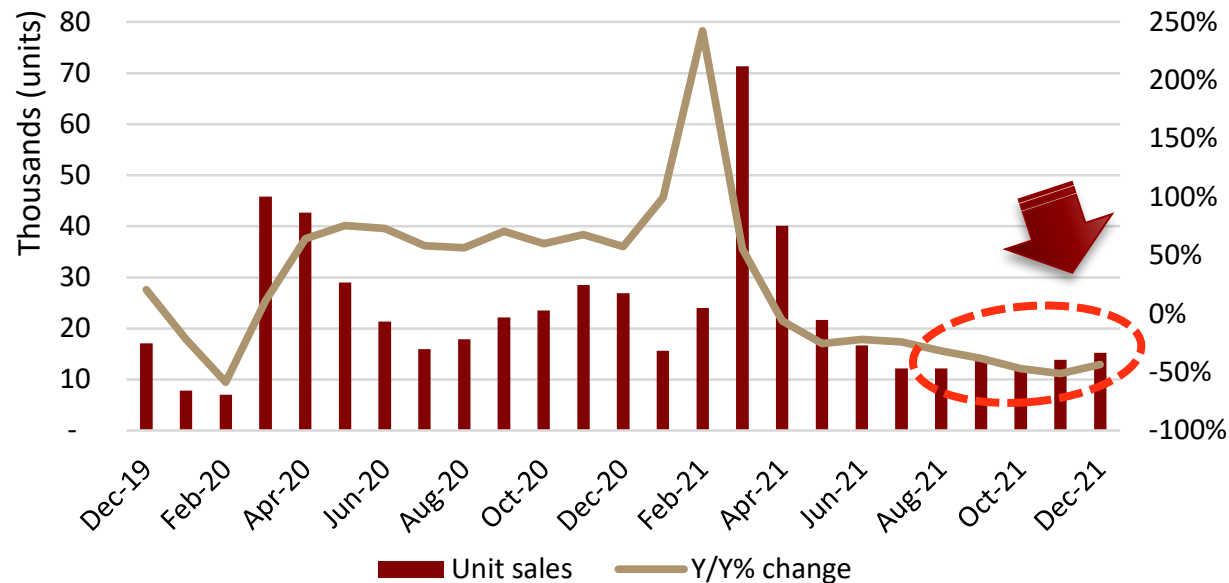
Table of Contents

1.	<u>Top Ten</u>	3
2.	<u>SRR Macro Momentum Indicator</u>	13
3.	Industry Data	
	• <u>Automotive</u>	17
	• <u>Construction Equipment</u>	36
	• <u>Commercial Vehicle</u>	40
	• <u>Automation</u>	43
	• <u>Elevator</u>	46
	• <u>White Goods</u> (e.g. HVAC)	49
4.	<u>Real Activity Indicators</u> (e.g. Freight)	51
5.	<u>Economic Data</u>	54
6.	<u>Property Market</u>	64
7.	<u>Land Sales</u>	85
8.	<u>Financing and Credit Indicators</u>	87
9.	<u>Employment and Income Indicators</u>	91

Top Ten

1. Excavator sales were -44% y/y in Dec (-11% vs. '19) vs. -51% in Nov (-18% vs. '19), and outperformed seasonality for the second month in a row (+9% m/m vs. historical avg +3%); 2021 growth -7% y/y vs. +40% in 2020 (+30% vs. '19)

Excavator Sales - Domestic Total

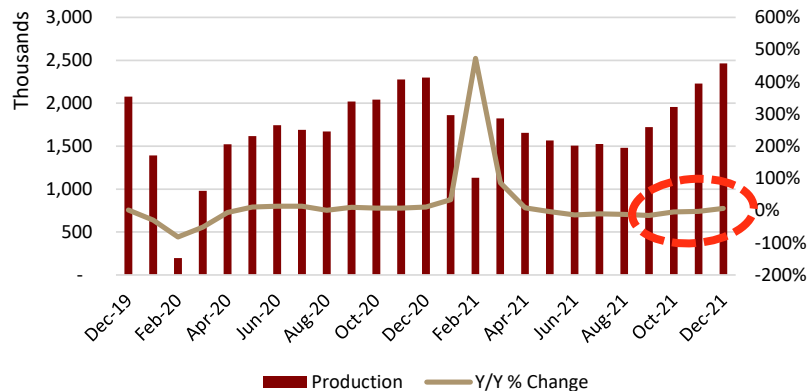


Source: Silk Road Research, China Construction Machinery Association (CCMA)

Top Ten

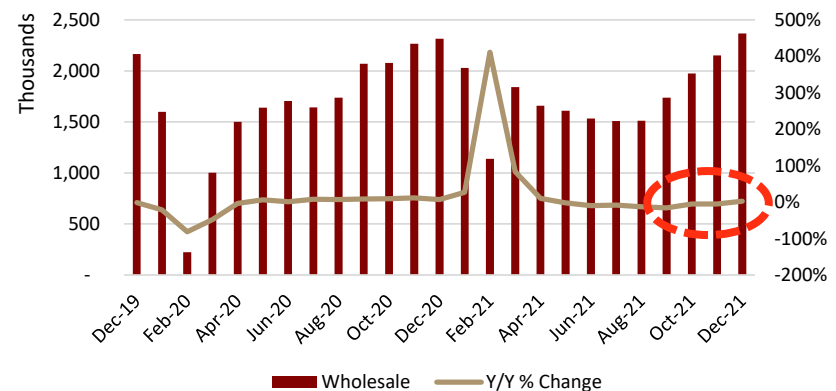
2. Auto metrics improved in Dec; Production at 3-year high in latest sign of moderating supply-chain pressures; Regs -7% vs. '19 (2021 -1% vs. '19); Retail -2% vs. '19 (2021 -3% vs. '19); Wholesale +9% vs. '19 (2021 -0.2% vs. '19)

Passenger Vehicle Production



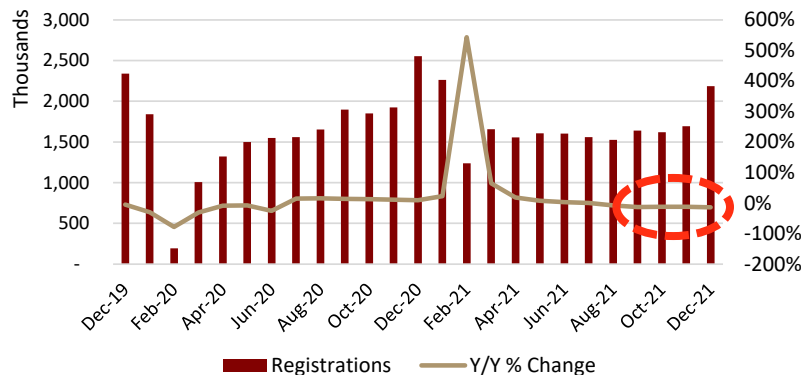
Source: Silk Road Research, China Passenger Car Association (CPCA)

Passenger Vehicle Wholesale



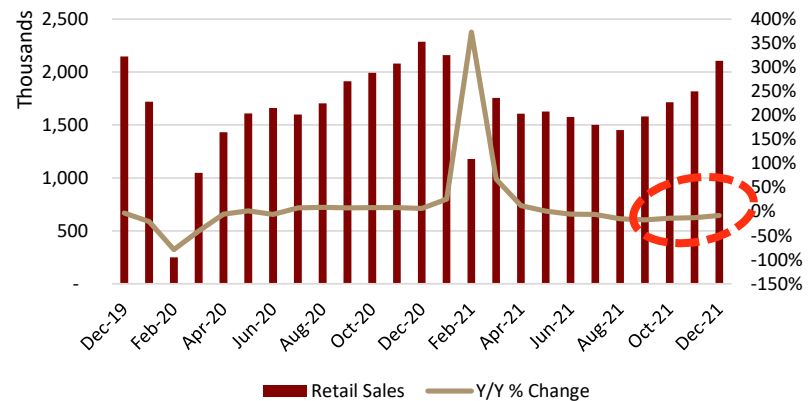
Source: Silk Road Research, China Passenger Car Association (CPCA)

Passenger Vehicle Registration



Source: Silk Road Research, CPCA, Insurance Association of China

Passenger Vehicle Retail Sales

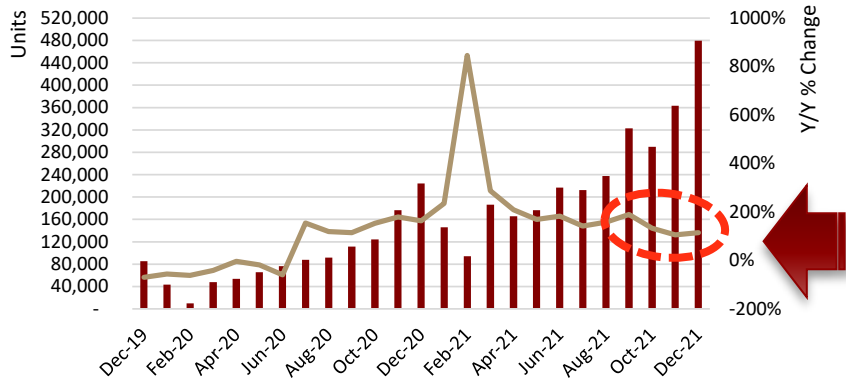


Source: Silk Road Research, China Passenger Car Association (CPCA)

Top Ten

3. NEV sales growth remained strong at +114% y/y in Dec (Nov +106%, 2021 +160%); NEV penetration at new high of 22% (LTM 14%); TSLA 4Q NEV market share ~10% (2021 ~11% vs. 2020 ~12%); BYD, XPEV gained share, NIO, VW lost share in 2021

NEV Passenger Vehicle - Registrations



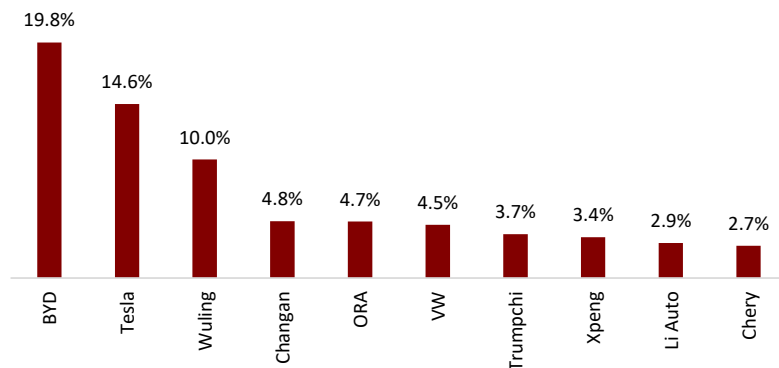
Source: Silk Road Research, IAC

NEV Passenger Vehicle - Wholesale



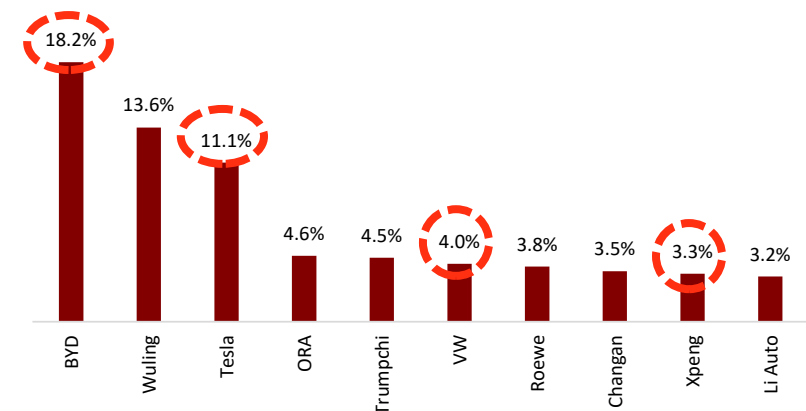
Source: Silk Road Research, IAC

Dec 2021: Top 10 NEV Brands by Market Share



Source: Silk Road Research, IAC

2021: Top 10 NEV Brands by Market Share

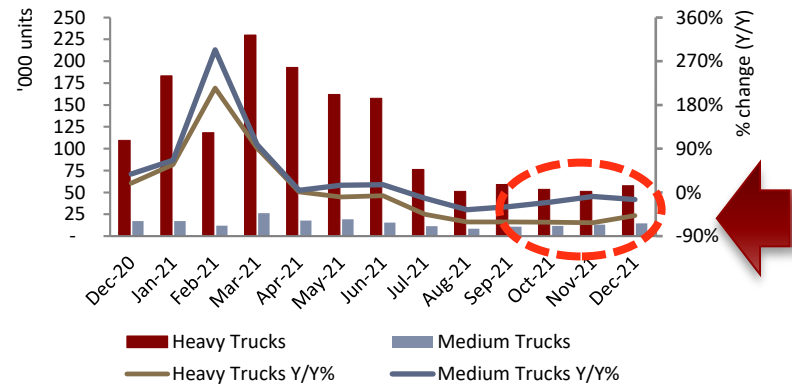


Source: Silk Road Research, IAC

Top Ten

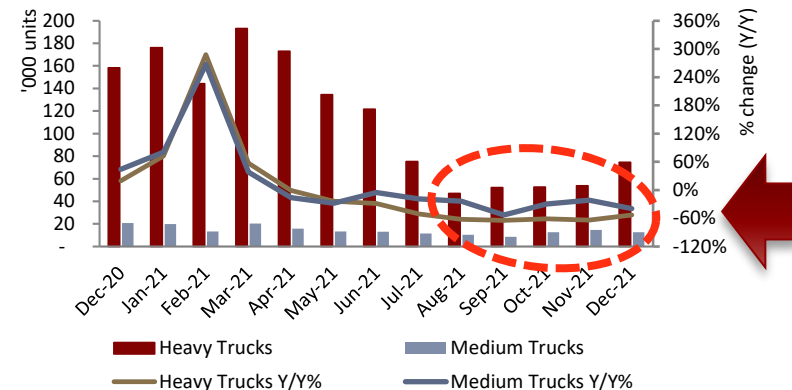
4. H/D sales growth remained deeply negative at -48% y/y in Dec (-38% vs. '19) vs. -62% in Nov (-50% vs. '19); H/D production -53% y/y (Nov -64%); NS6 transition remained an overhang; 2021 sales/production growth -14%/-21%

Heavy and Medium Truck Sales



Source: Silk Road Research, China Association of Automobile Manufacturers

Heavy and Medium Truck Production

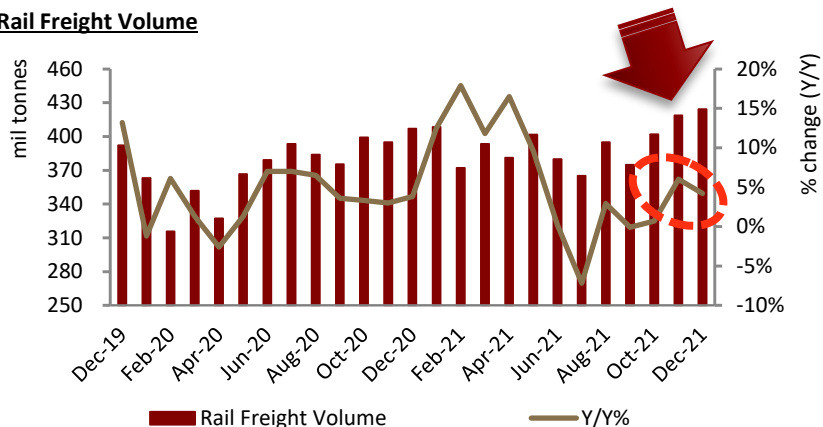


Source: Silk Road Research, China Association of Automobile Manufacturers

Top Ten

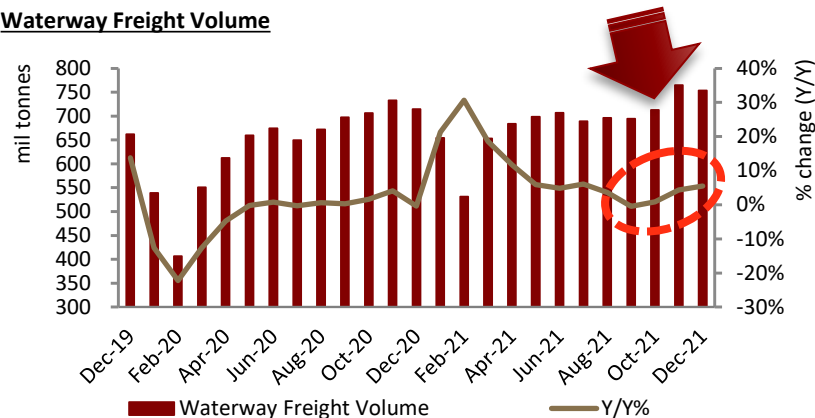
5. Total freight growth re-accelerated to +3% y/y in Dec (Nov +0.2%) despite relatively stable comps, driven by improvement in Road, Waterway, Civil Aviation growth; 2021 freight growth +12% y/y (2020 -0.5%)

Rail Freight Volume



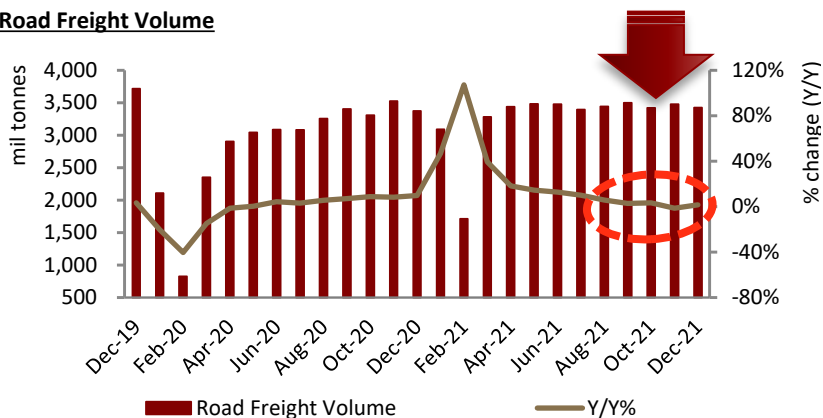
Source: Silk Road Research, National Bureau of Statistics

Waterway Freight Volume



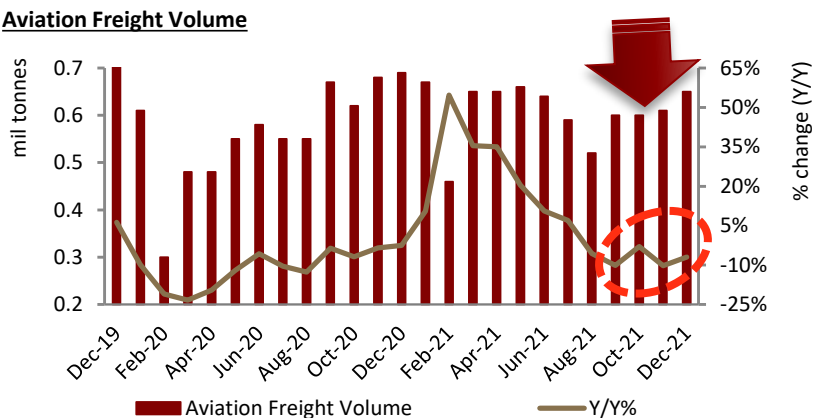
Source: Silk Road Research, National Bureau of Statistics

Road Freight Volume



Source: Silk Road Research, National Bureau of Statistics

Aviation Freight Volume

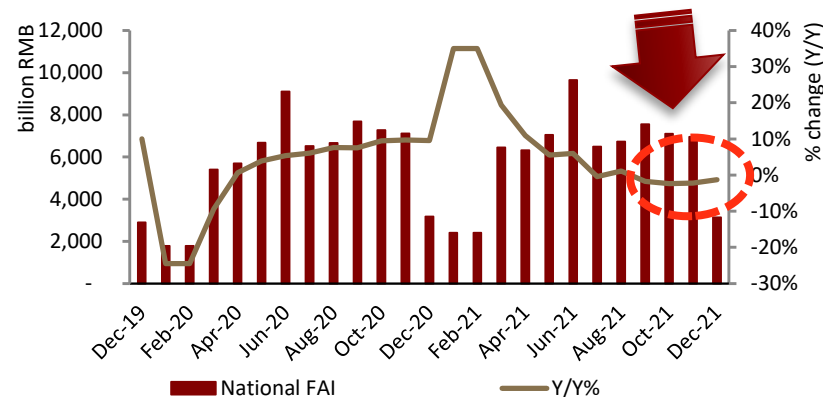


Source: Silk Road Research, National Bureau of Statistics

Top Ten

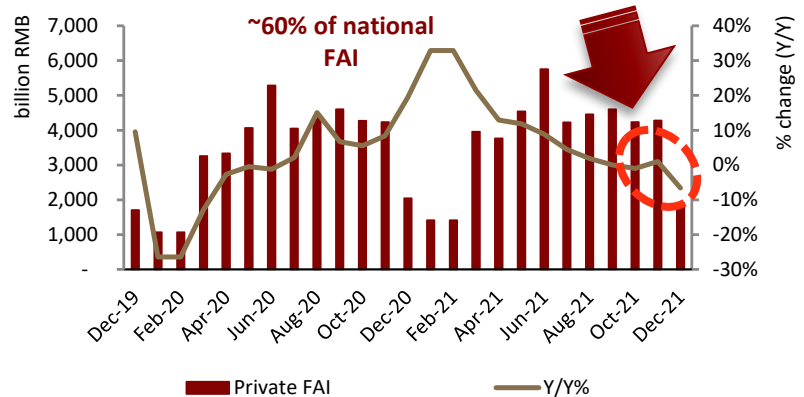
6. National FAI growth was negative for the fourth straight month at -1% y/y in Dec (Nov -2%, 2021 +4.9%); Infra FAI moderated to +2% y/y (Nov +5%, 2021 +5%) despite easier comp, driven by slowdown in Road/Rail; Private FAI growth turned negative to -7% y/y in Dec (Nov +1%, 2021 +7%) against tougher comp

National Total FAI



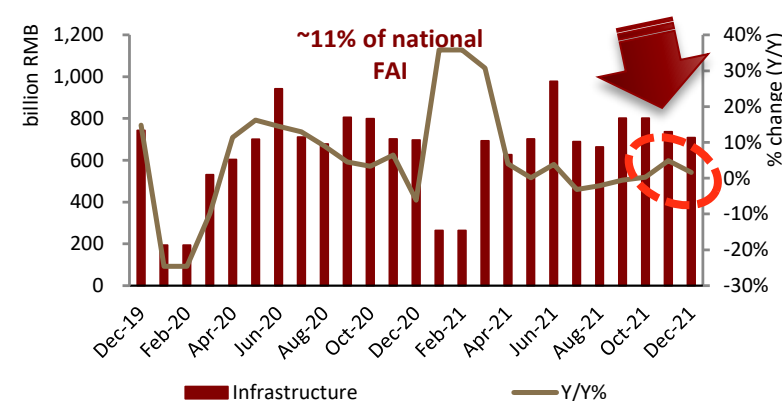
Source: Silk Road Research, National Bureau of Statistics of China

Private FAI



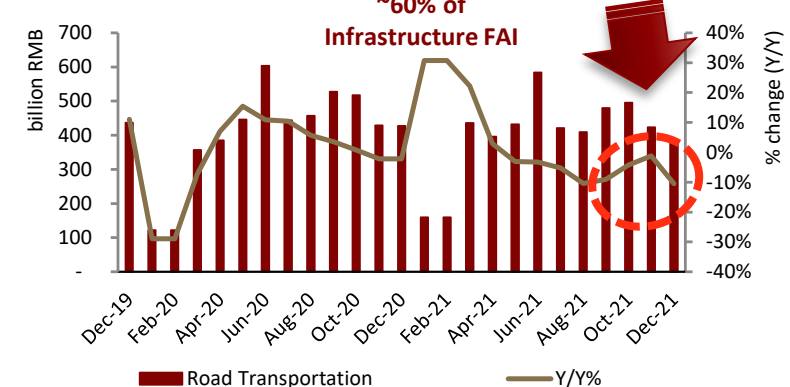
Source: Silk Road Research, National Bureau of Statistics of China

Infrastructure FAI



Source: Silk Road Research, National Bureau of Statistics of China

Road Transportation FAI

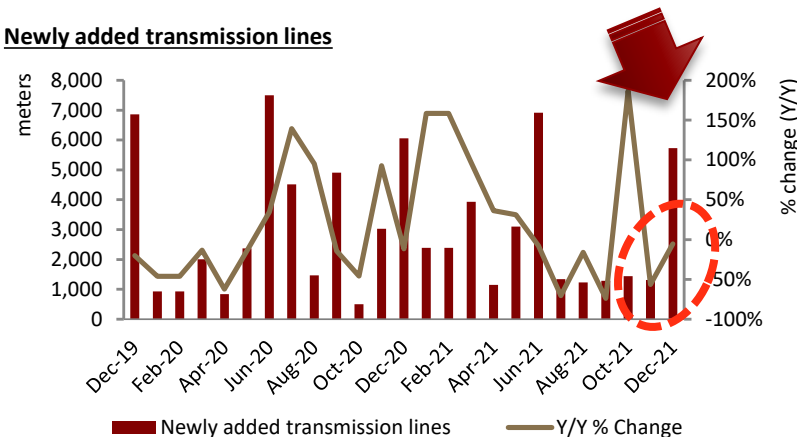


Source: Silk Road Research, National Bureau of Statistics of China

Top Ten

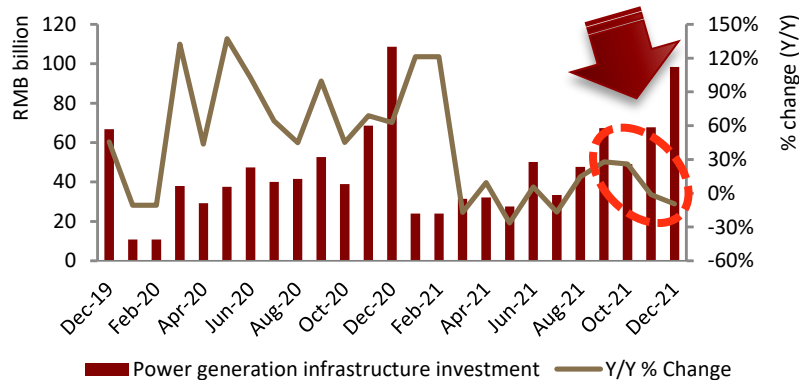
7. New transmission lines growth in negative territory (Dec -8% y/y, Nov -57%, 2021 -8%); Power grid infra (Dec +12% y/y, Nov +22%, 2021 +5%) and power gen infra (Dec -10% y/y, Nov -1%, 2021 +6%) investment growth mid-single digit

Newly added transmission lines



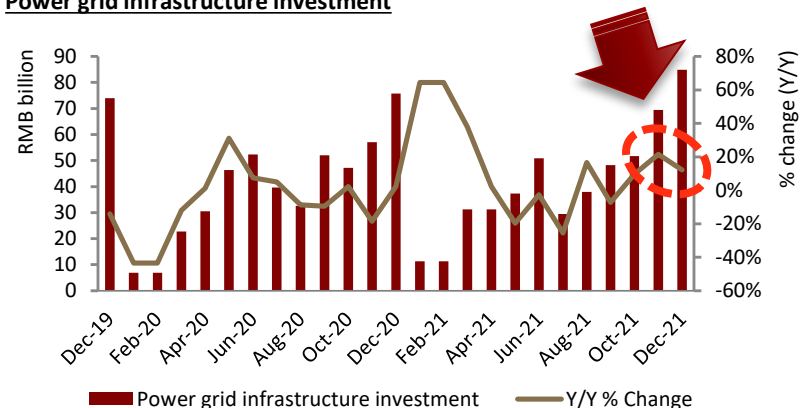
Source: Silk Road Research, State Grid

Power generation infrastructure investment



Source: Silk Road Research, State Grid

Power grid infrastructure investment

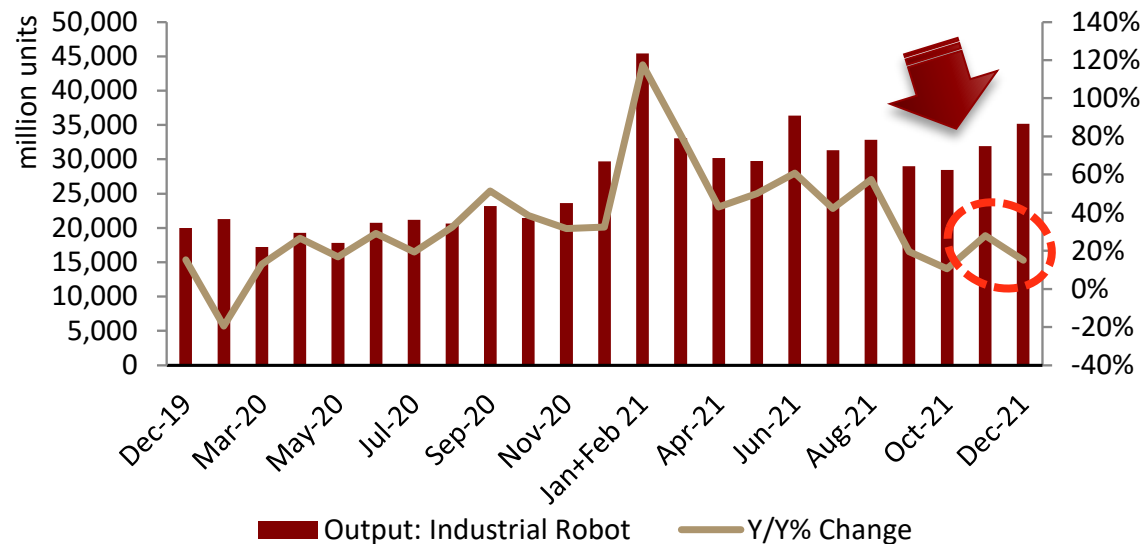


Source: Silk Road Research, State Grid

Top Ten

8. Industrial robot production growth moderated to +15% y/y in Dec after hitting a 3-mth high of +28% in Nov, more than tougher comps would warrant; 2021 growth +45% (2020 +19%)

Industrial Robot Production

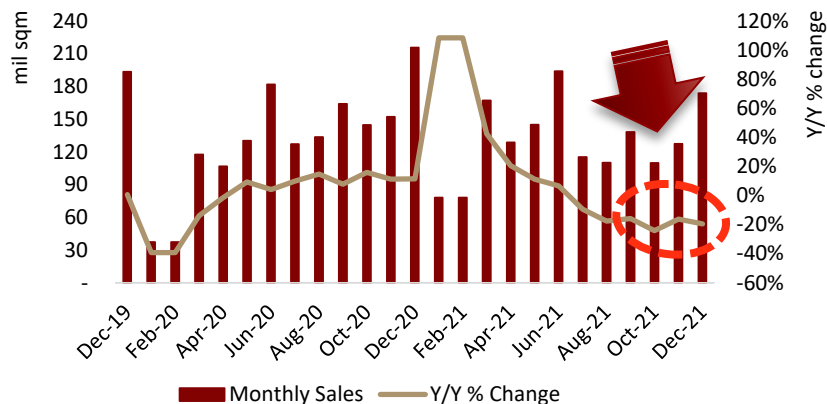


Source: Silk Road Research, Wind Information, National Bureau of Statistics (NBS)

Top Ten

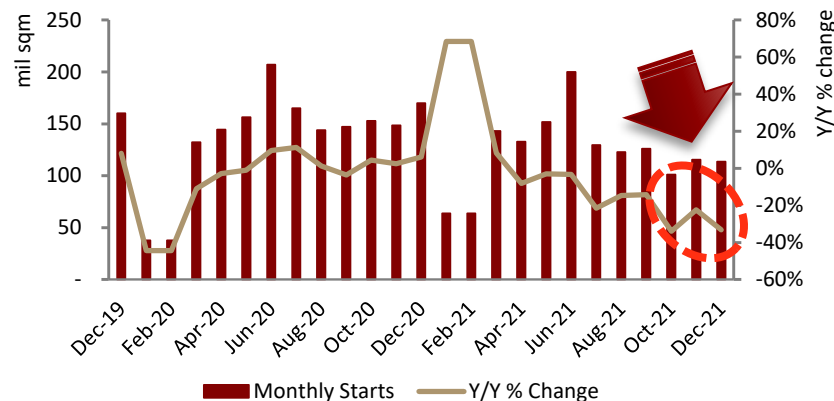
9. Resi sales growth deteriorated to -19% y/y (Nov -16%, 2021 +1%); Completions moderated to +1% y/y (Nov +13%, 2021 +11%) despite easier comp; Starts plunged to -33% y/y (Nov -22%, 2021 -11%); Mortgage growth turned negative (-19% y/y)

China Residential Sales - National (Floor Space)



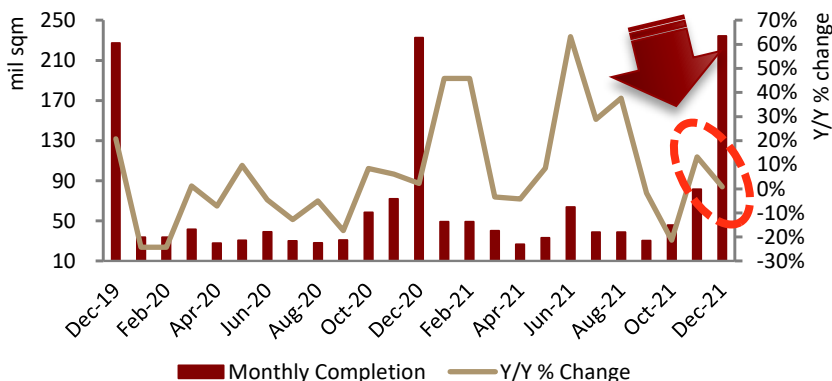
Source: Silk Road Research, CREIS

China Residential Starts - Monthly (National)



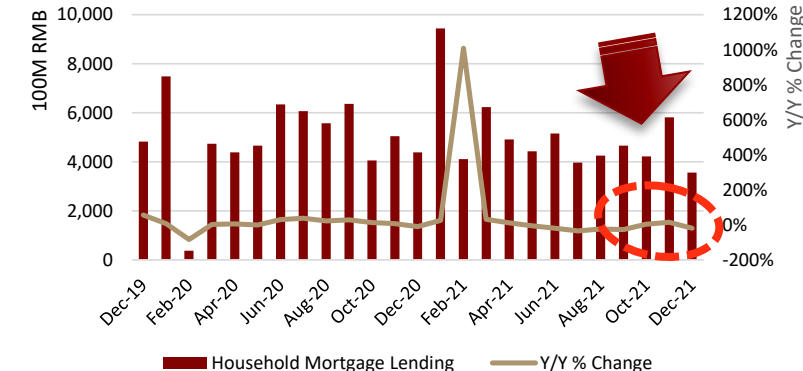
Source: Silk Road Research, CREIS

China Residential Completions - National (Floor Area)



Source: Silk Road Research, CREIS

New Yuan Loans - Household Mortgage Component

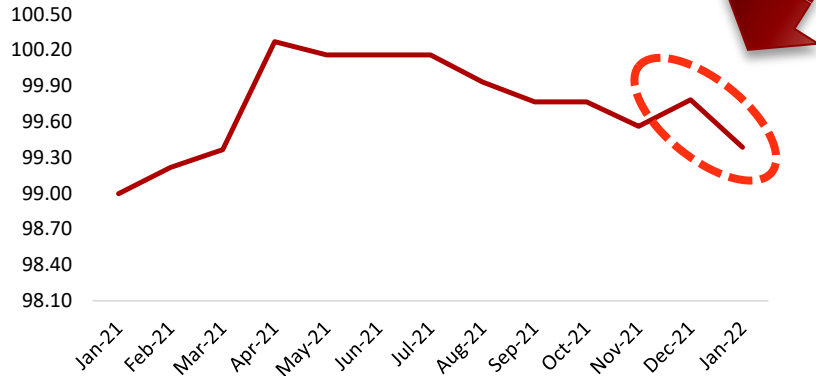


Source: Silk Road Research, The People's Bank of China (PBOC)

Top Ten

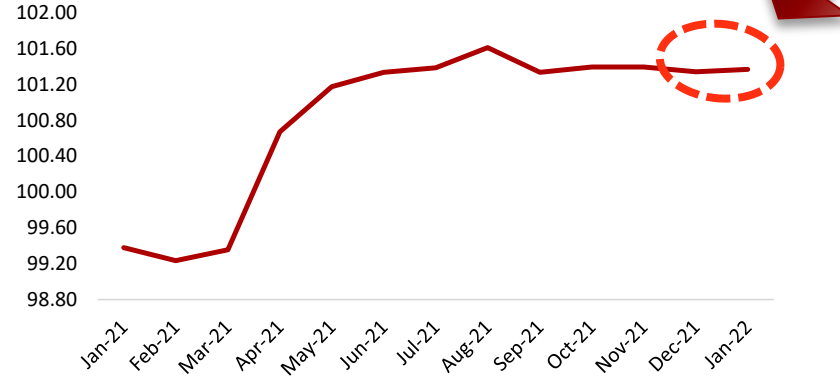
10. SRR Property Pricing Tracker indicated flat-to-down pricing trend across all tiers ex-tier 2 cities in Jan

SRR Proprietary Pricing Index - Tier 1 Composite



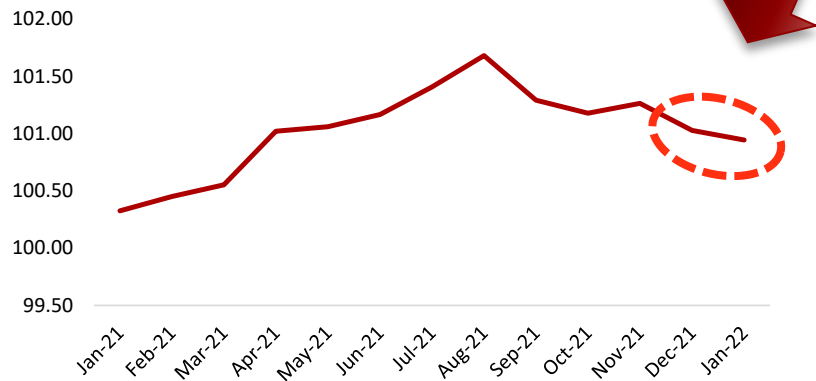
Source: Silk Road Research, Soufang

SRR Proprietary Pricing Index - Tier 2 Composite



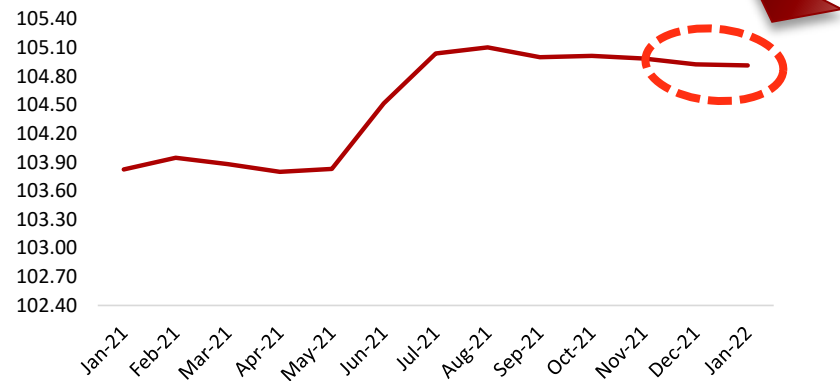
Source: Silk Road Research, Soufang

SRR Proprietary Pricing Index - Tier 3 Composite



Source: Silk Road Research, Soufang

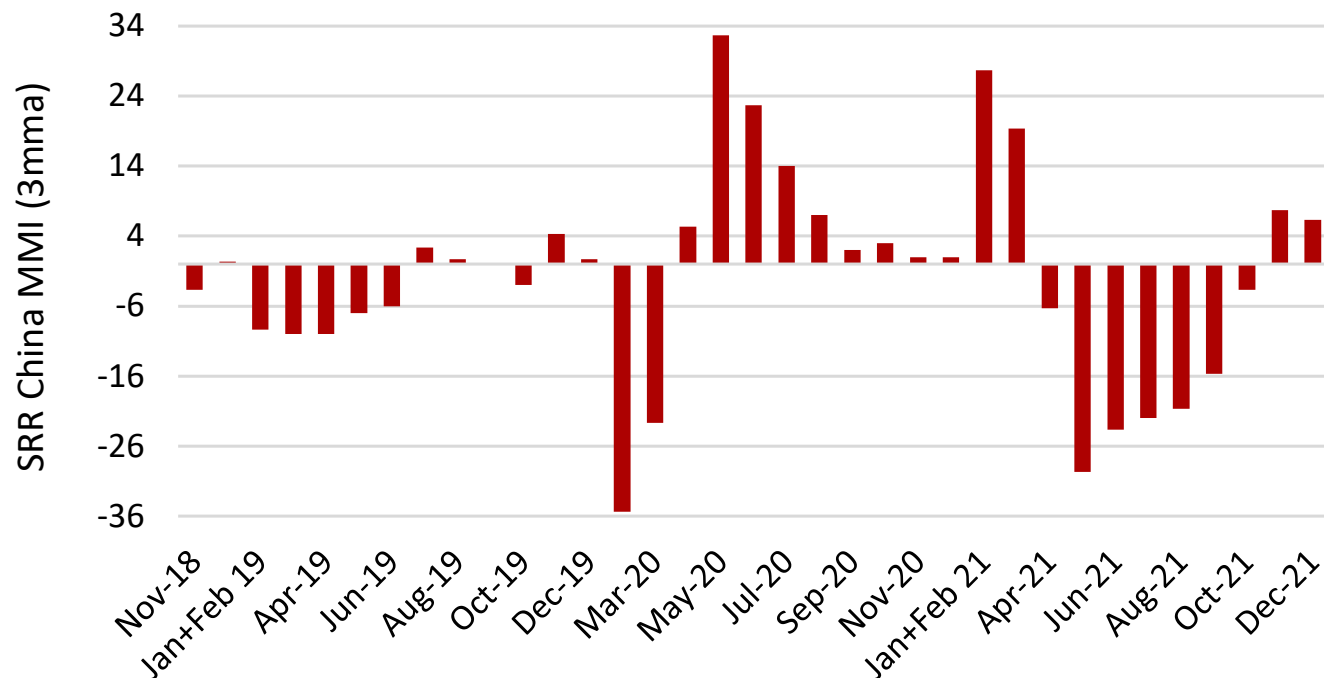
SRR Proprietary Pricing Index - Tier 4 Composite



Source: Silk Road Research, Soufang

SRR MACRO MOMENTUM INDICATOR

SRR China Macro Momentum Indicator (MMI)

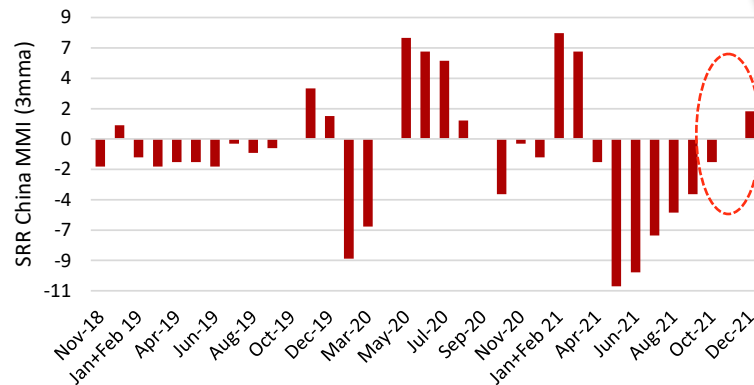


Source: Silk Road Research

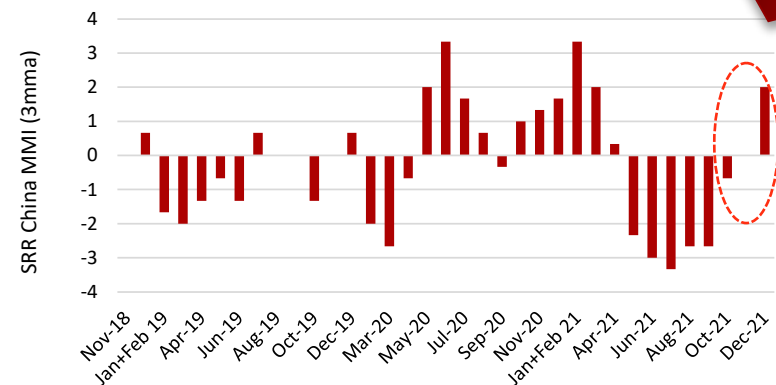
SRR China Macro Momentum Indicator (three-month rolling) moderated to +6.3 in Dec from +7.7 in Nov; Second positive month indicating improved macro momentum exiting 2021

SRR Macro Momentum Indicator

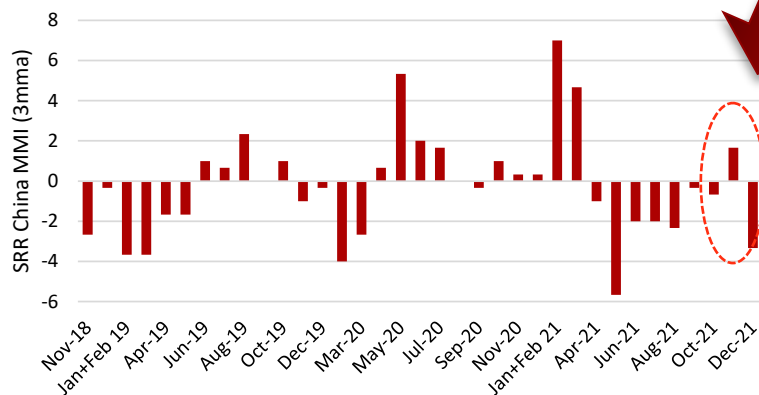
SRR China MMI - Industry-specific Indicators



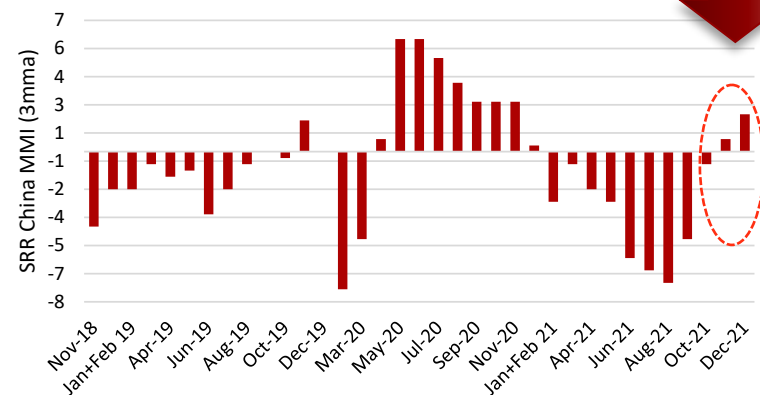
SRR China MMI - Freight Indicators



SRR China MMI - Property Indicators



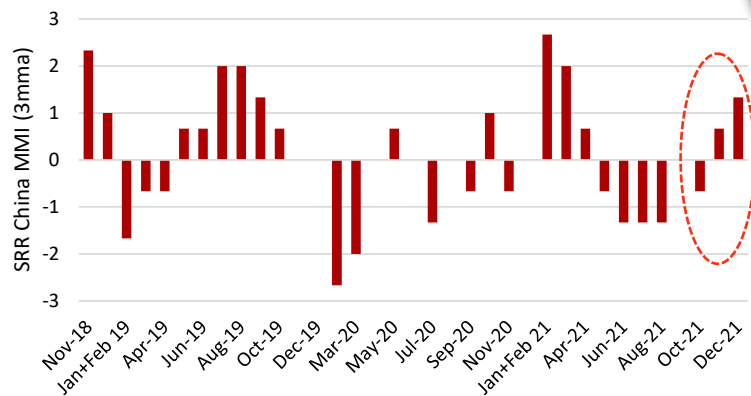
SRR China MMI - Economic Indicators



Industry-specific, Freight and Economic MMI improved;
Property MMI worsened

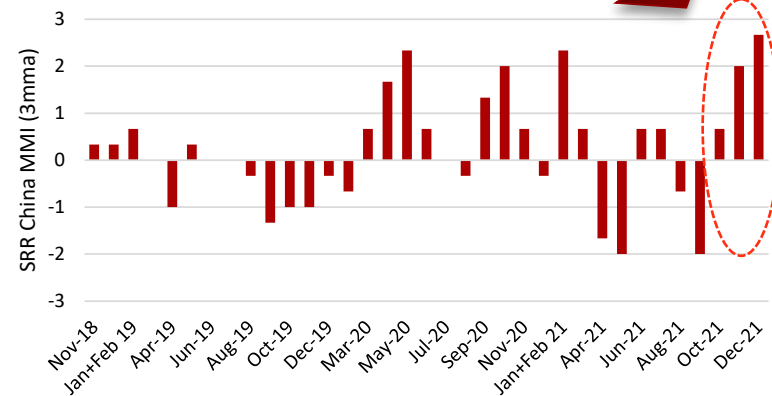
SRR Macro Momentum Indicator

SRR China MMI - Commodity Production Indicators



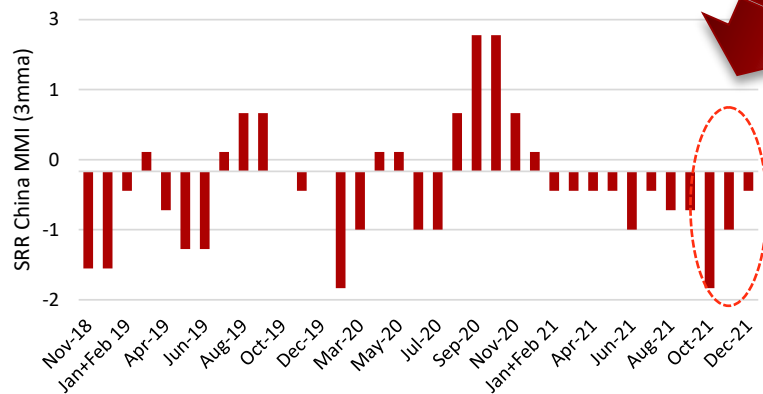
Source: Silk Road Research

SRR China MMI - Credit Indicators



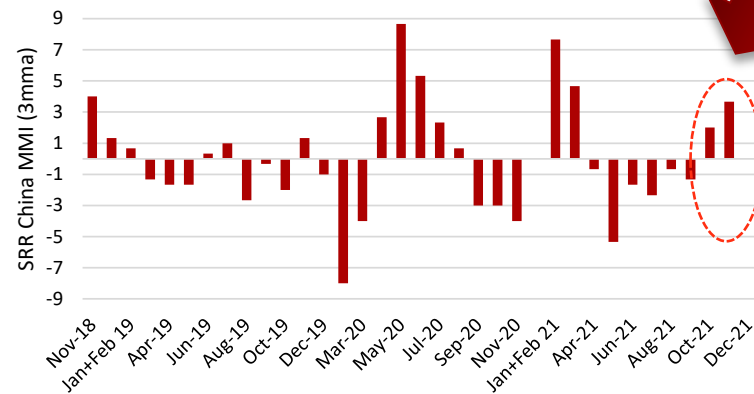
Source: Silk Road Research

SRR China MMI - Employment Indicators



Source: Silk Road Research

SRR China MMI - Fixed Asset Investment Indicators



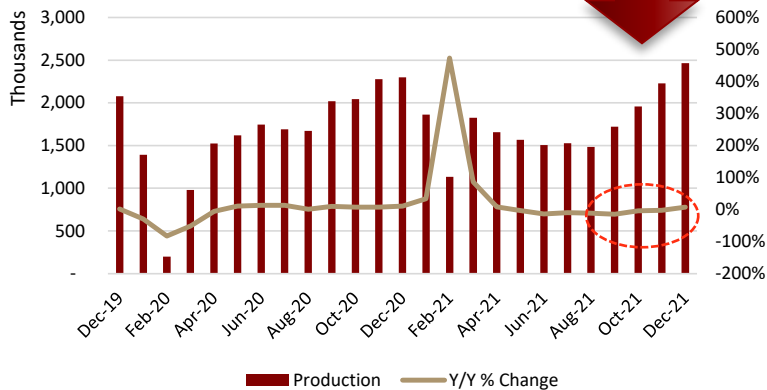
Source: Silk Road Research

Commodity, Credit, Employment and FAI MMI all improved

INDUSTRY DATA - AUTOMOTIVE

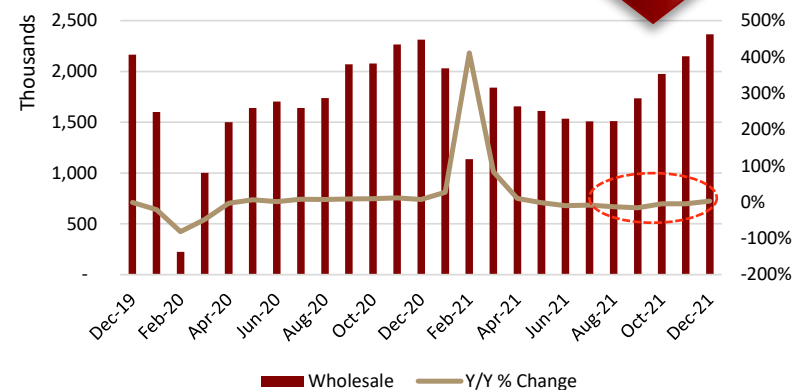
Automotive

Passenger Vehicle Production



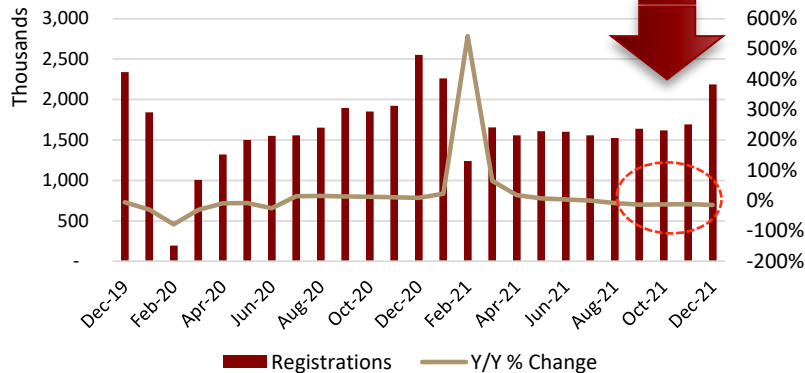
Source: Silk Road Research, China Passenger Car Association (CPCA)

Passenger Vehicle Wholesale



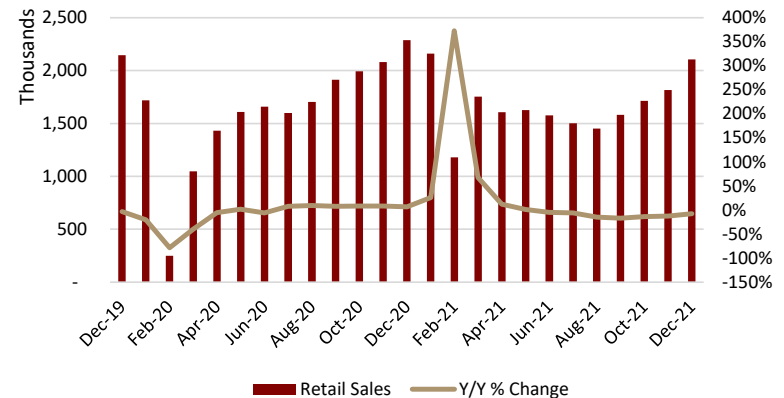
Source: Silk Road Research, China Passenger Car Association (CPCA)

Passenger Vehicle Registration



Source: Silk Road Research, CPCA, Insurance Association of China

Passenger Vehicle Retail Sales

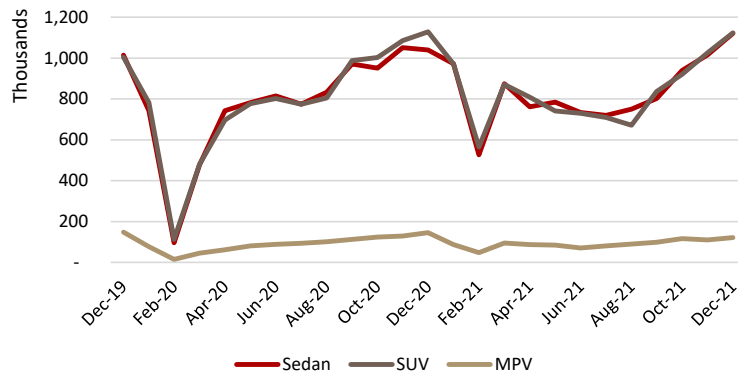


Source: Silk Road Research, China Passenger Car Association (CPCA)

Wholesale growth turned positive to +2.3% y/y in Dec vs. -5.1% in Nov;
Registrations growth remained negative at -14.4% y/y in Dec vs. -11.9% in Nov

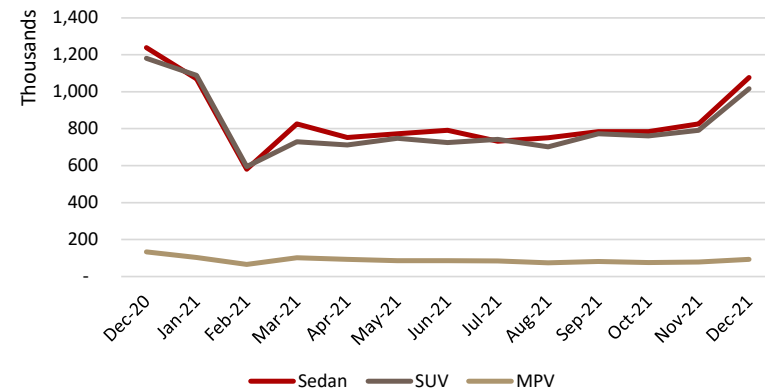
Automotive

Wholesale - Unit Sales by Category



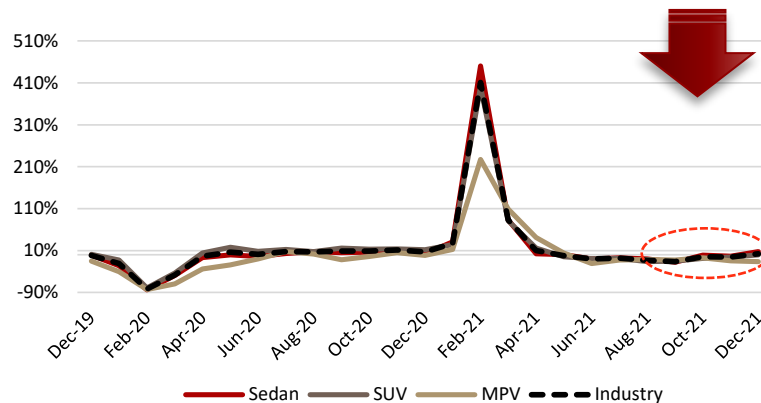
Source: Silk Road Research, China Passenger Car Association (CPCA)

Registration - Unit Sales by Category



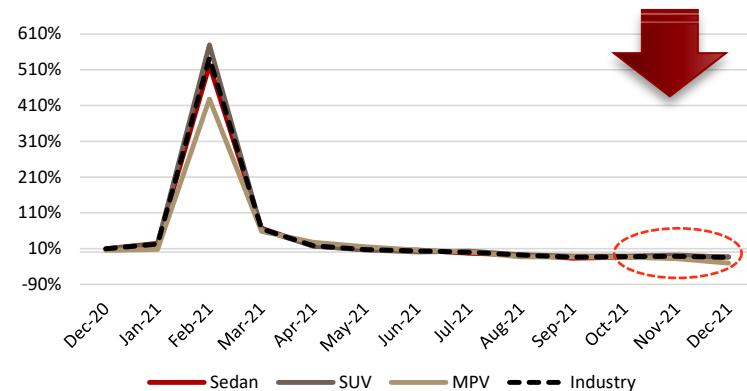
Source: Silk Road Research, Insurance Association of China

Wholesale - Y/Y % Change by Category



Source: Silk Road Research, China Passenger Car Association (CPCA)

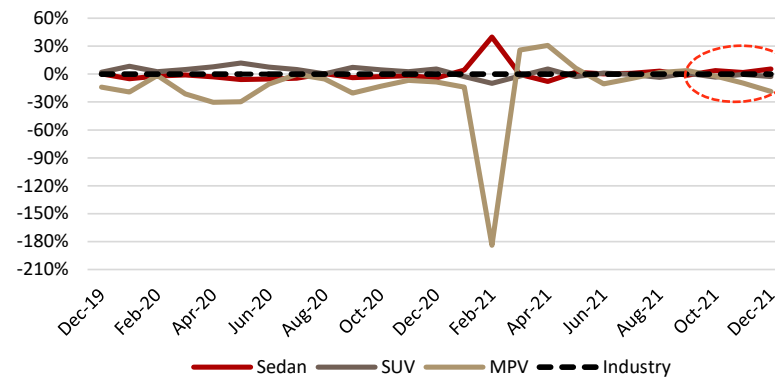
Dec 2021: Registrations by Category (Y/Y % Change)



Source: Silk Road Research, Insurance Association of China

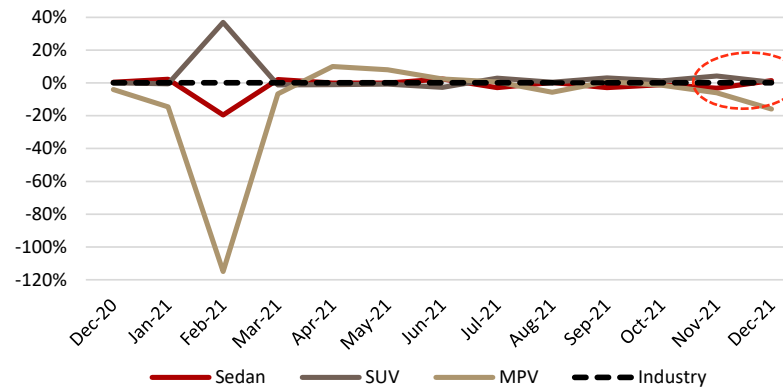
SUVs wholesale growth improved to -0.4% y/y in Dec vs. -5.5% in Nov;
SUVs registrations growth deteriorated to -14.0% y/y in Dec vs. -7.7% in Nov

Wholesale - Y/Y % Performance vs. Industry



Source: Silk Road Research, China Passenger Car Association (CPCA)

Registration - Y/Y % Performance vs. Industry

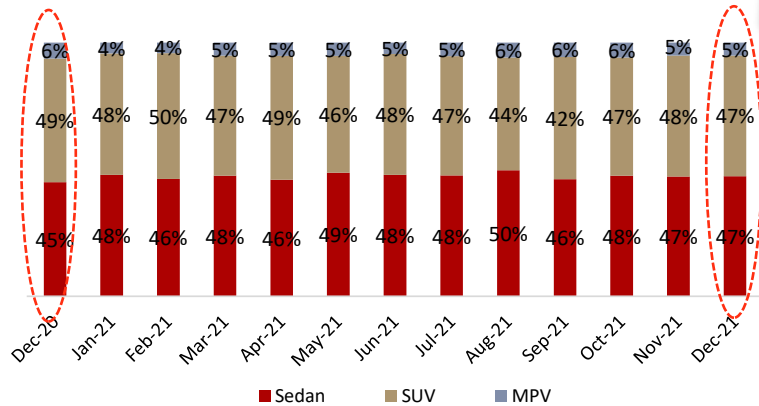


Source: Silk Road Research, Insurance Association of China

SUV wholesale underperformed in Dec;
SUV registrations outperformed

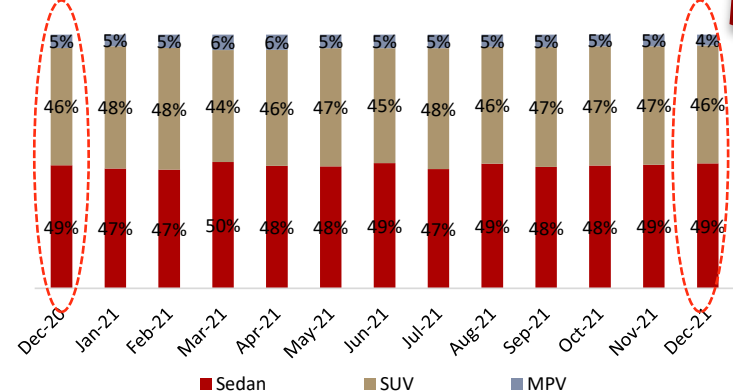
Automotive

Wholesale - Market Share by Category



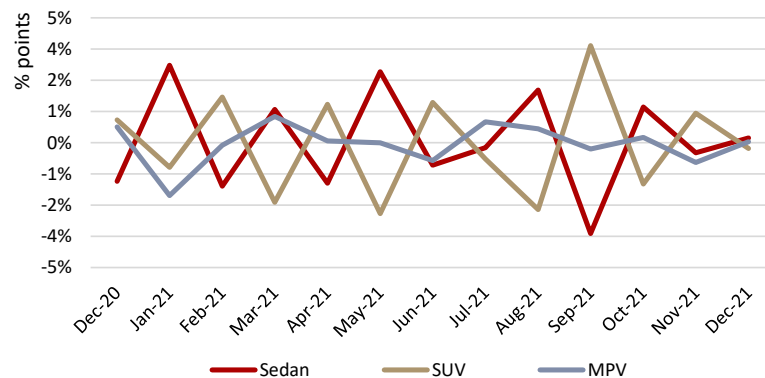
Source: Silk Road Research, China Passenger Car Association (CPCA)

Registration - Market Share by Category



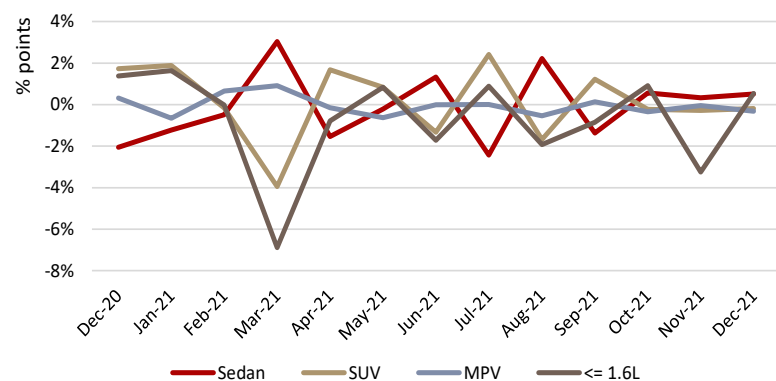
Source: Silk Road Research, Insurance Association of China

Wholesale - Change in Market Share by Category (M/M)



Source: Silk Road Research, China Passenger Car Association (CPCA)

Registration - Change in Market Share by Category (M/M)

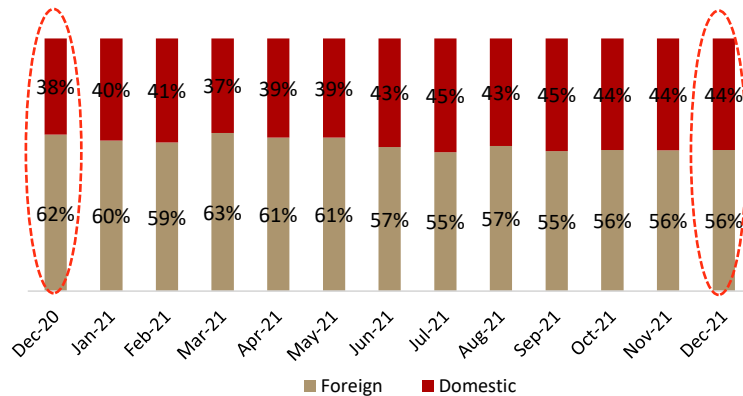


Source: Silk Road Research, Insurance Association of China

SUV wholesale market share down 2 pts from prior year;
SUV registrations market share same as prior year

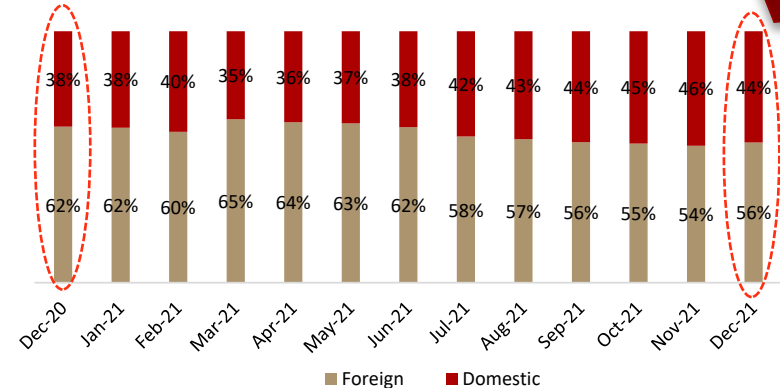
Automotive

Wholesale - Foreign vs. Domestic Market Share



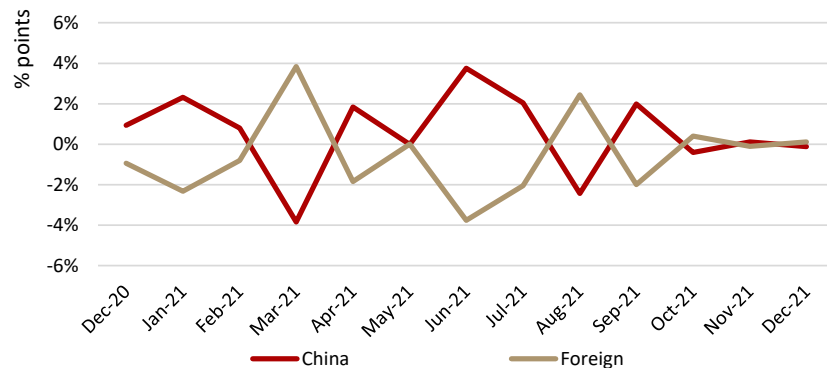
Source: Silk Road Research, China Passenger Car Association (CPCA)

Registration - Foreign vs. Domestic Market Share



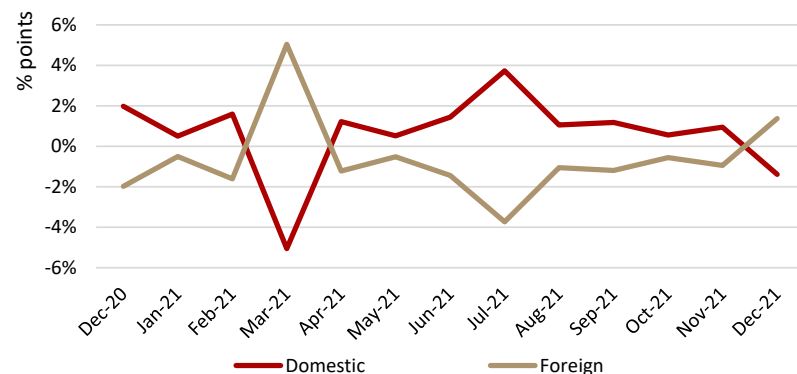
Source: Silk Road Research, Insurance Association of China

Wholesale - Foreign vs. Domestic Change in Market Share (M/M)



Source: Silk Road Research, China Passenger Car Association (CPCA)

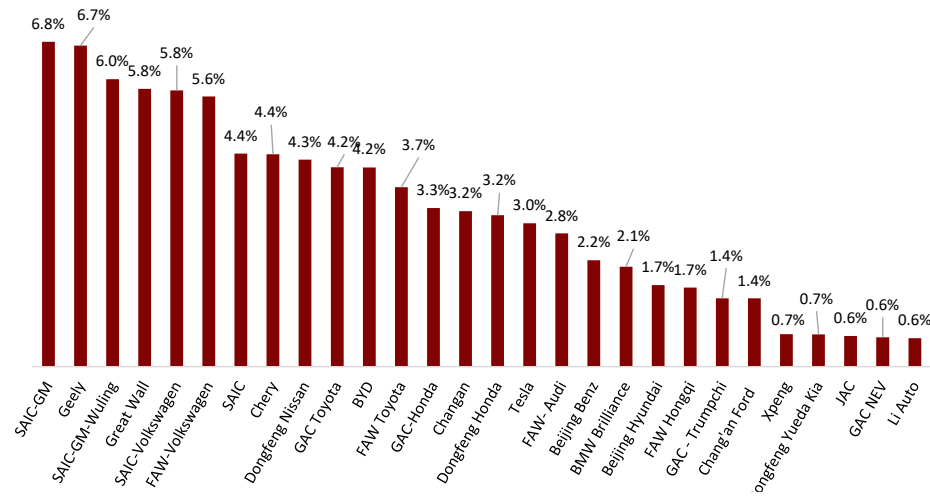
Registration - Foreign vs. Domestic Change in Market Share (M/M)



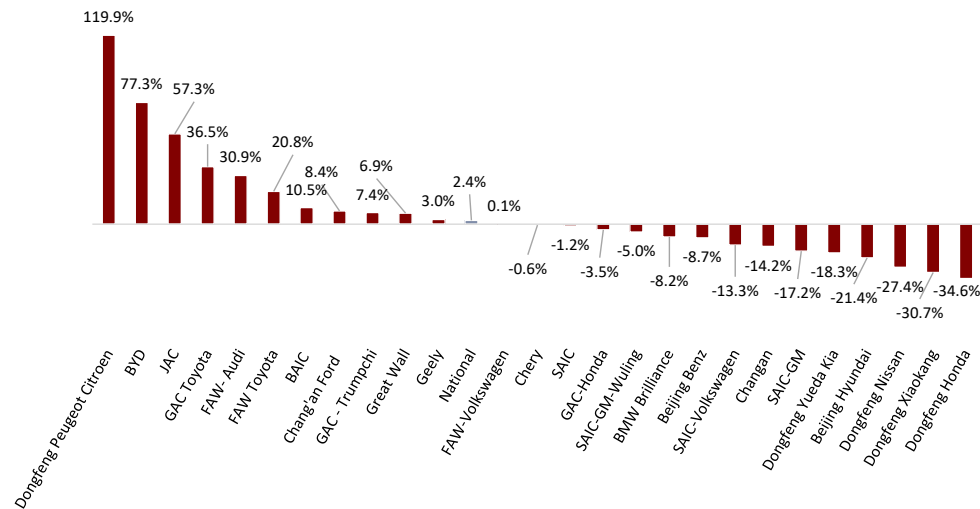
Source: Silk Road Research, Insurance Association of China

Foreign wholesale and registrations market share down 7 pts from prior year

Wholesale - Market Share (Dec 2021)

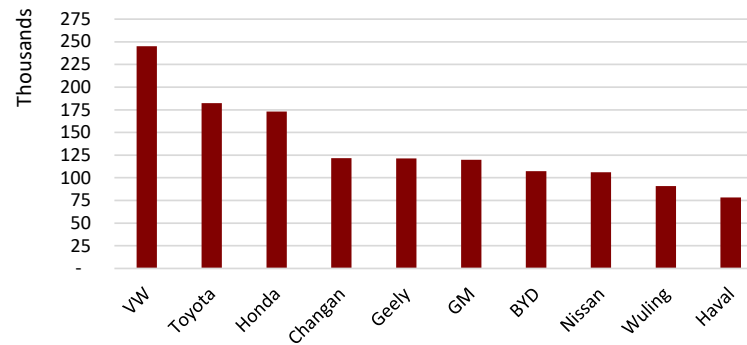


Wholesale - Y/Y % Change (Dec 2021)



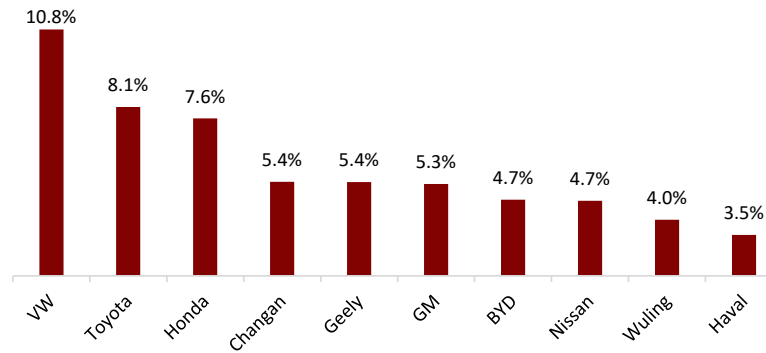
Source: Silk Road Research, China Passenger Car Association (CPCA)

Dec 2021: Top 10 Brands by Total (incl imports) Registrations



Source: Silk Road Research, Insurance Association of China

Dec 2021: Top 10 Brands by Market Share (incl imports)

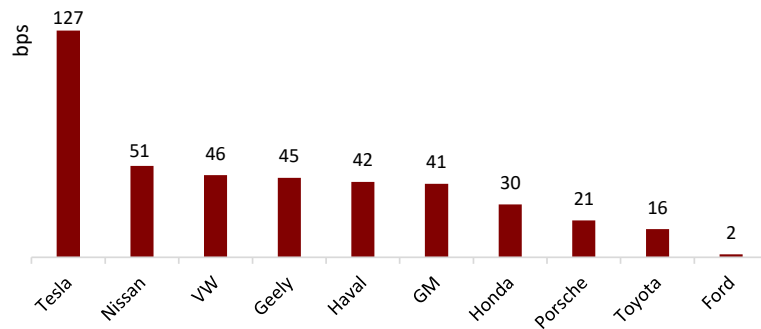


Source: Silk Road Research, Insurance Association of China

VW, Honda and Toyota led in market share

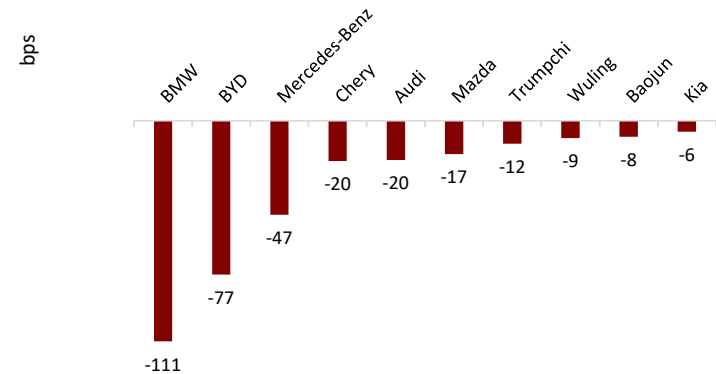
Automotive

Dec 2021: Top 10 Market Share M/M Growth (incl imports)



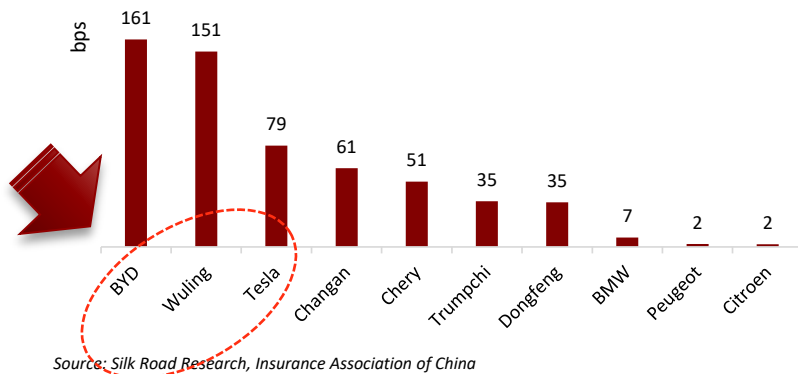
Source: Silk Road Research, Insurance Association of China

Dec 2021: Top 10 Market Share M/M Decline (incl imports)



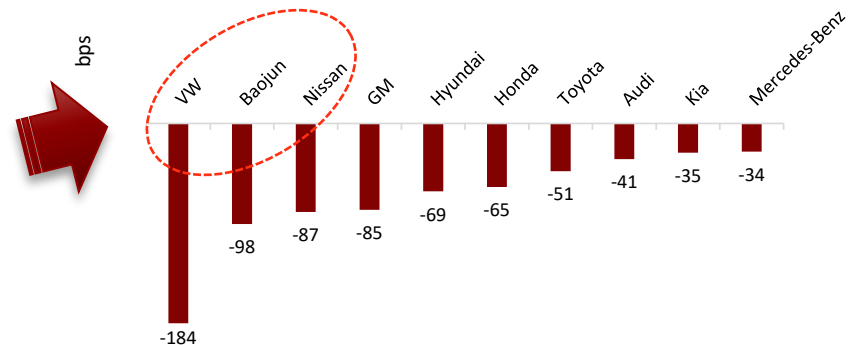
Source: Silk Road Research, Insurance Association of China

2021: Top 10 Market Share Growth (incl imports) (Y/Y% Change)



Source: Silk Road Research, Insurance Association of China

2021: Top 10 Market Share Decline (incl imports) (Y/Y% Change)

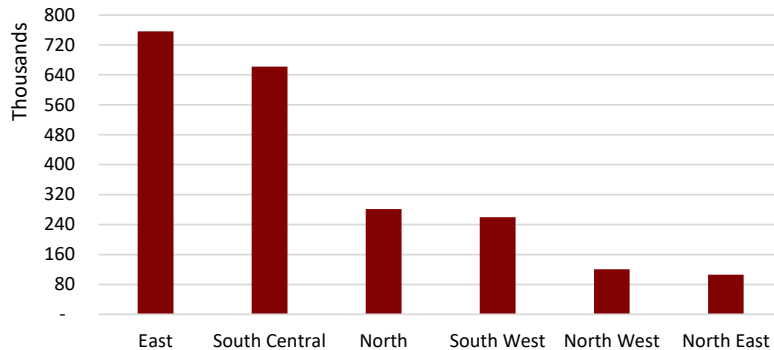


Source: Silk Road Research, Insurance Association of China

BYD, Wuling and Tesla led market share gains on YTD basis;
VW led market share decline, followed by Baojun and Nissan

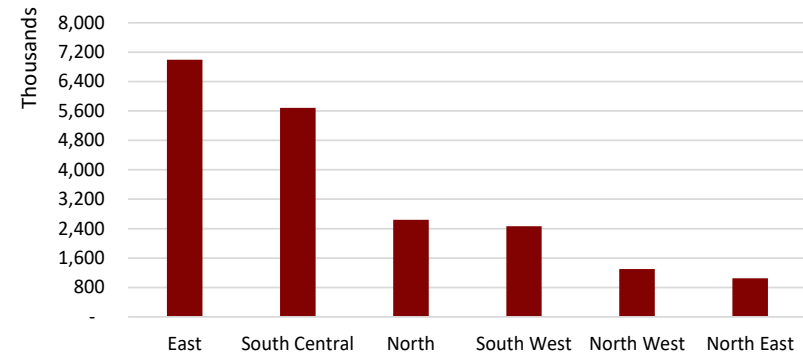
Automotive

Dec 2021: Registrations by Region



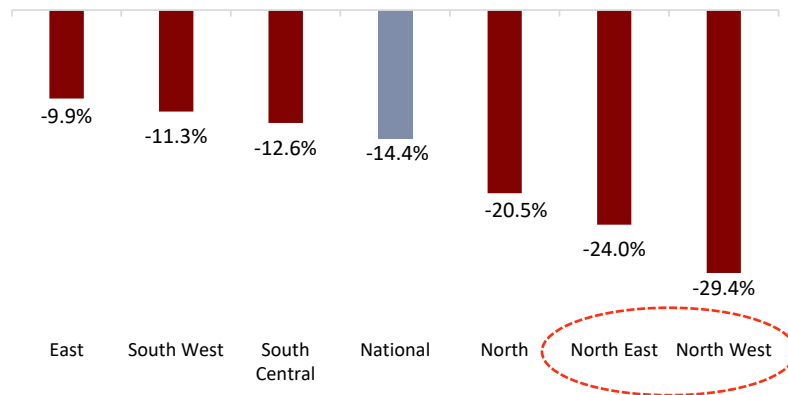
Source: Silk Road Research, Insurance Association of China

2021: Registrations by Region



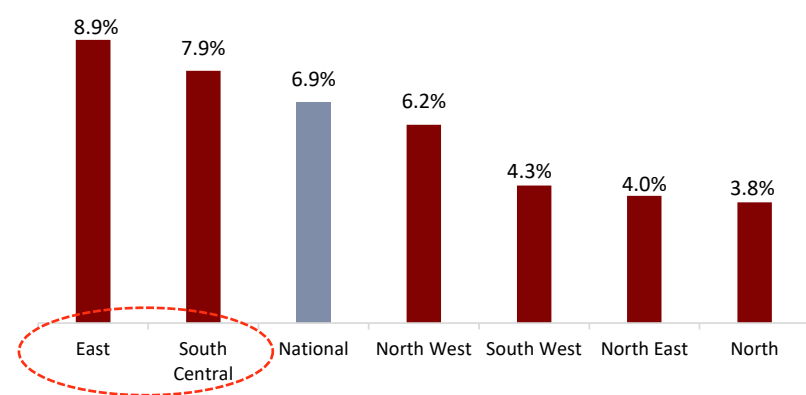
Source: Silk Road Research, Insurance Association of China

Dec 2021: Registrations by Region (Y/Y % Change)



Source: Silk Road Research, Insurance Association of China

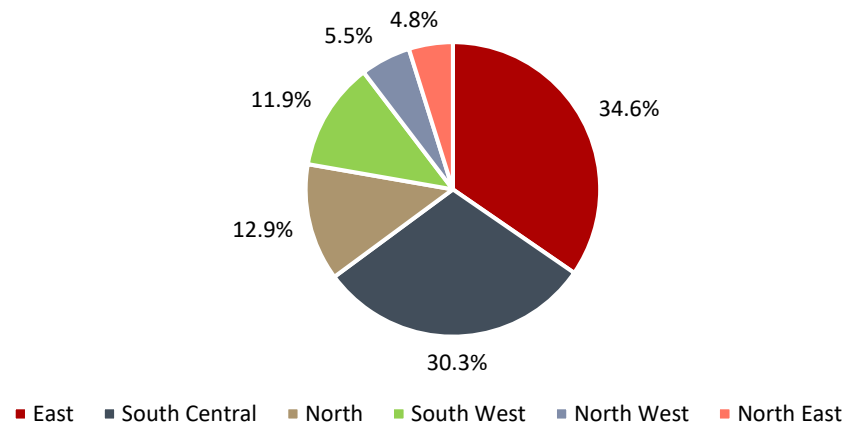
2021: Registrations by Region (Y/Y % Change)



Source: Silk Road Research, Insurance Association of China

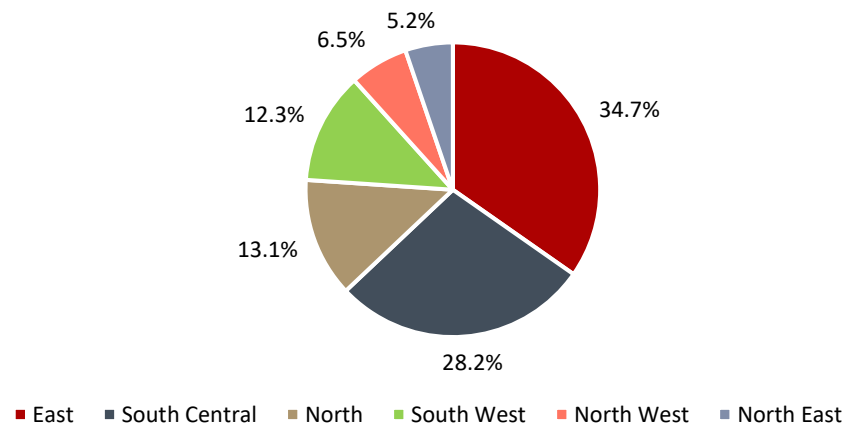
North East and North West regions underperformed in Dec;
East and South Central regions outperformed YTD

Dec 2021: Registrations by Region



Source: Silk Road Research, Insurance Association of China

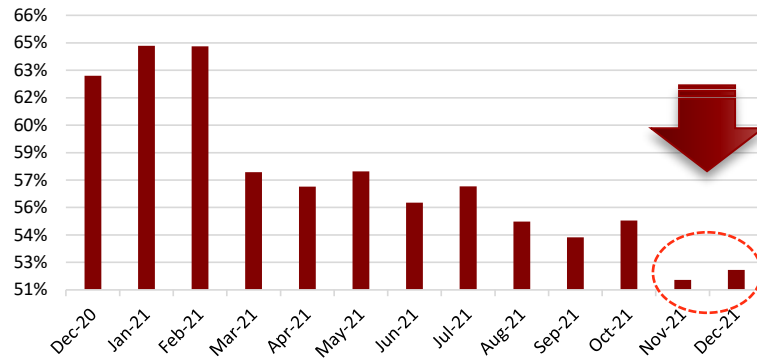
2021: Registrations by Region



Source: Silk Road Research, Insurance Association of China

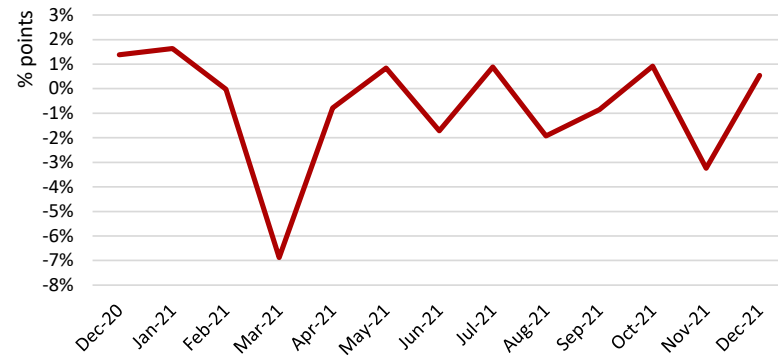
Automotive

Market Share of Cars <= 1.6L



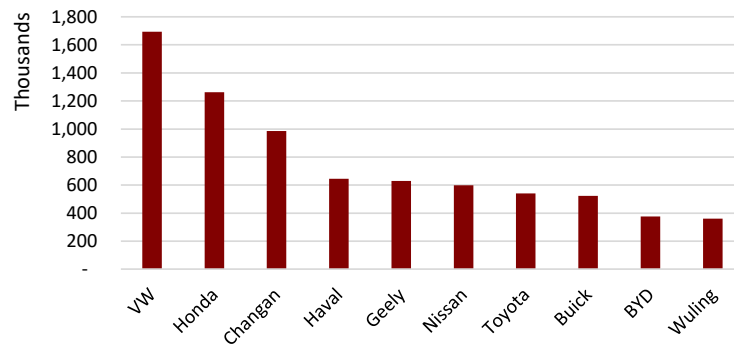
Source: Silk Road Research, Insurance Association of China

Change in Market Share of Cars <= 1.6L (M/M)



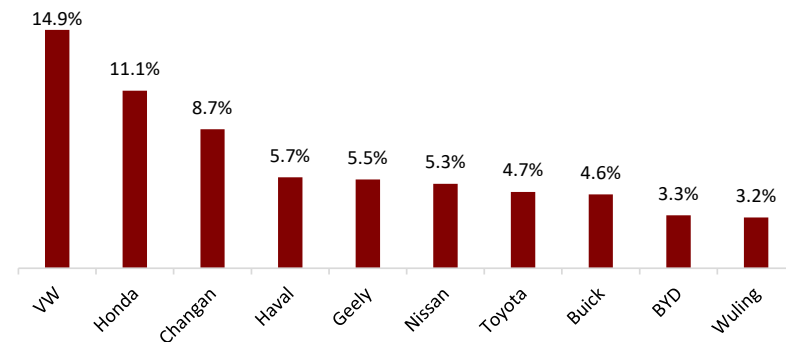
Source: Silk Road Research, Insurance Association of China

2021: Top 10 Brands of <=1.6L



Source: Silk Road Research, Insurance Association of China

2021: Top 10 Brands Market Share <=1.6L

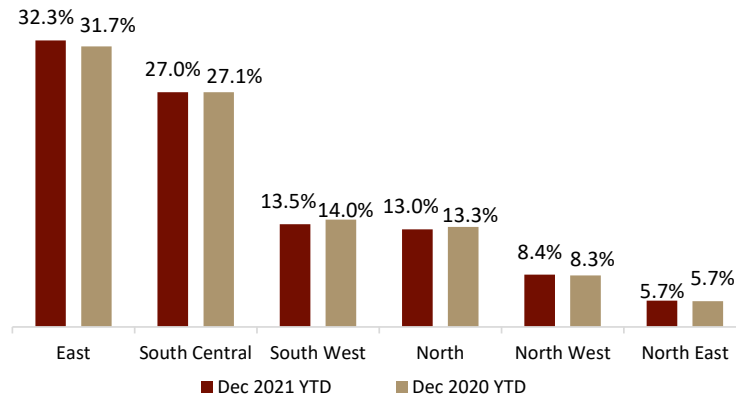


Source: Silk Road Research, Insurance Association of China

Market share of <= 1.6L engines ticked up to 52.1% in Dec vs. 51.5% in Nov

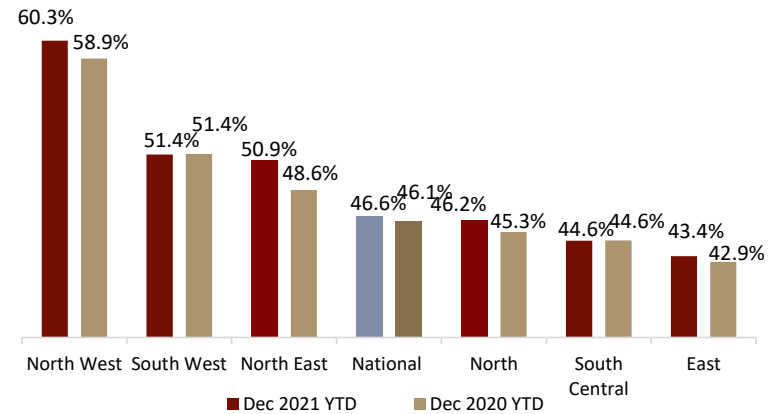
Automotive

SUV Sales Regional Breakdown



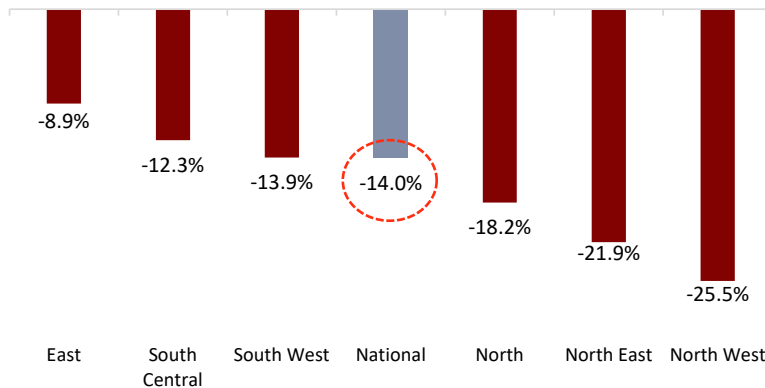
Source: Silk Road Research, Insurance Association of China

SUV Penetration Rate by Region



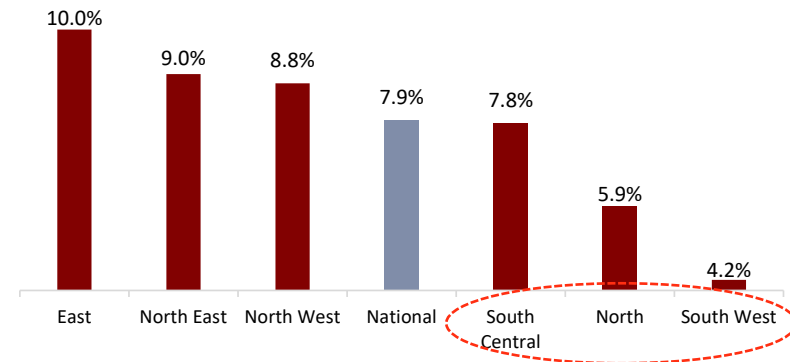
Source: Silk Road Research, Insurance Association of China

Dec 2021: SUV Registrations by Region (Y/Y % Change)



Source: Silk Road Research, Insurance Association of China

2021: SUV Registration by Region (Y/Y % Change)



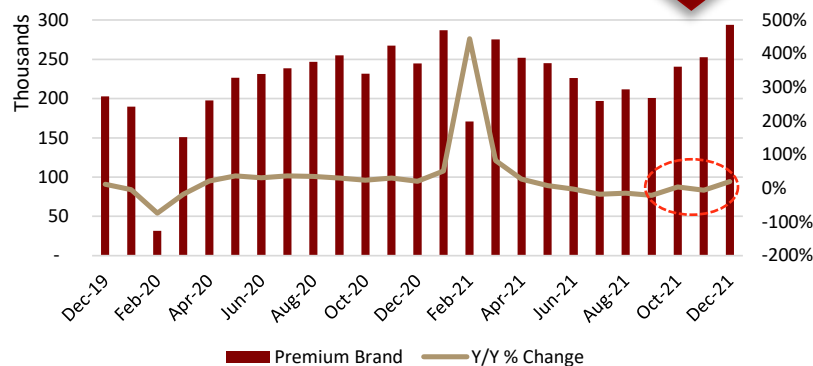
Source: Silk Road Research, Insurance Association of China



SUVs registrations growth ticked down to -14.0% y/y in Dec vs. -7.7% in Nov;
South West, North and South Central regions underperformed YTD

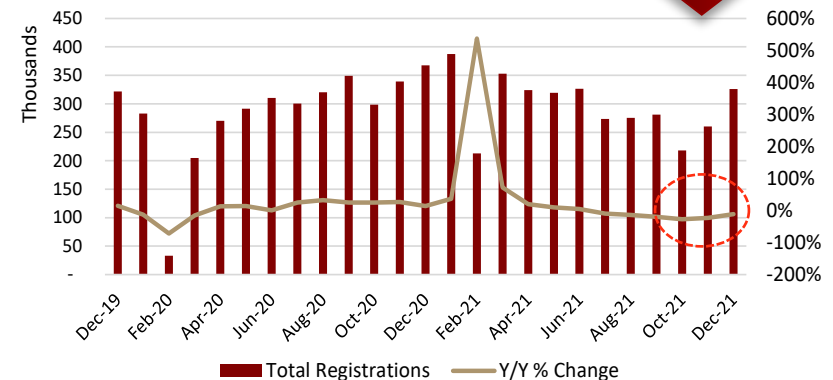
Automotive

Wholesale - Premium Brand



Source: Silk Road Research, China Passenger Car Association (CPCA)

Registration - Premium Brand (all)

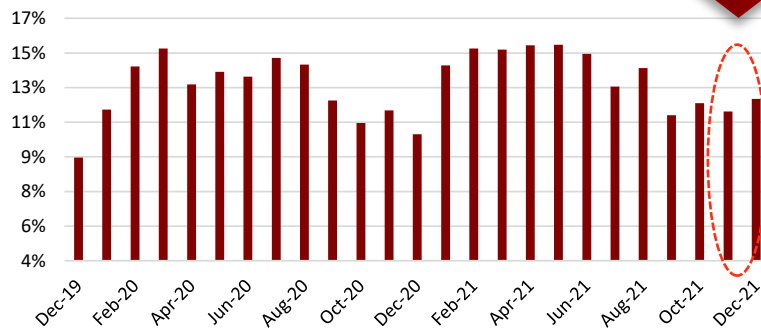


Source: Silk Road Research, Insurance Association of China

Premium wholesale growth turned positive to +20.1% y/y in Dec vs. -5.5% in Nov;
Premium registrations growth decline moderated to -11.3% y/y in Dec vs. -23.2% in Nov

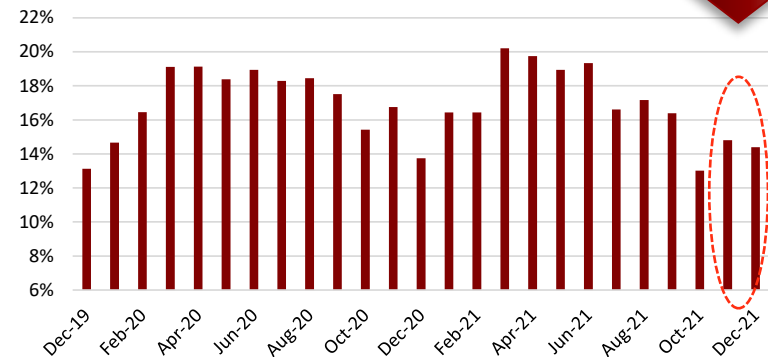
Automotive

Wholesale - Premium Brand (ex-imports) as a % of Total



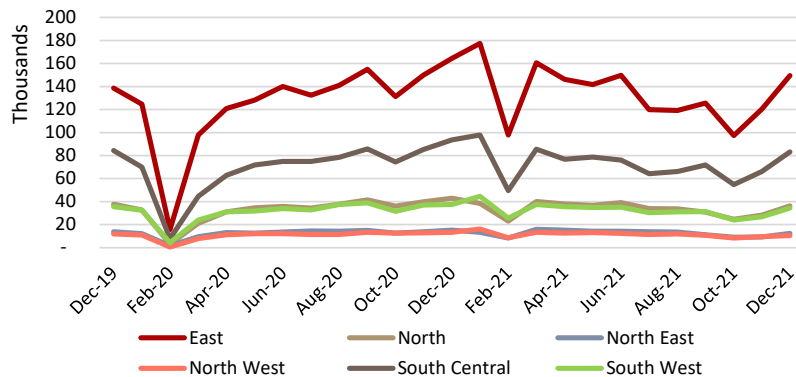
Source: Silk Road Research, China Passenger Car Association (CPCA)

Registration - Premium Brand (all) as a % of Total



Source: Silk Road Research, Insurance Association of China

Total Premium Brand (incl imports) Registrations by Region

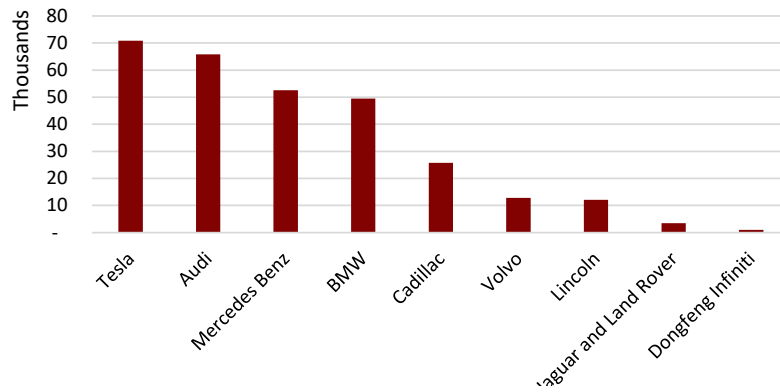


Source: Silk Road Research, Insurance Association of China

Premium brand wholesale market share ticked up in Dec;
Premium brand registrations market share ticked down

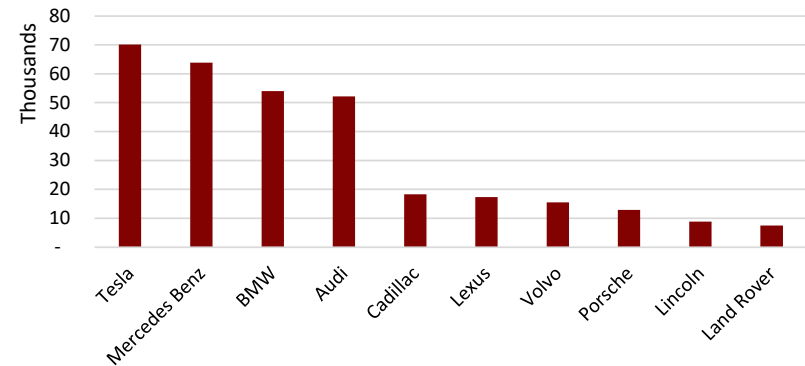
Automotive

Wholesale - Premium Brand (ex-imports) (Dec 2021)



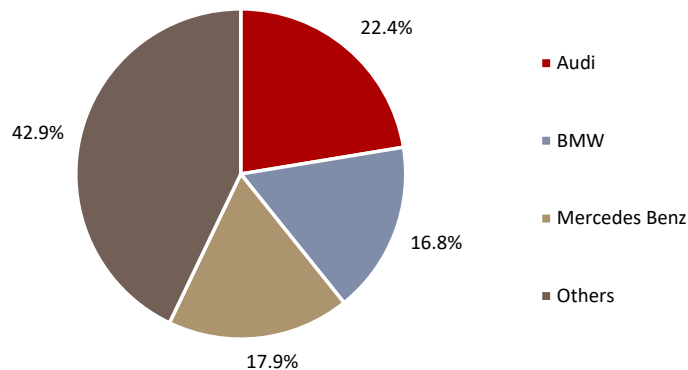
Source: Silk Road Research, China Passenger Car Association (CPCA)

Registration - Premium Brand (all) (Dec 2021)



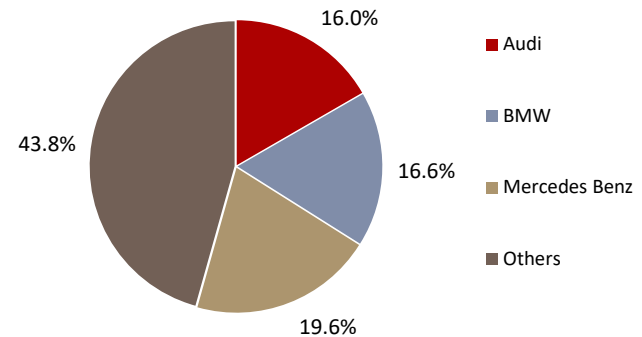
Source: Silk Road Research, Insurance Association of China

Wholesale - Premium Brand (ex-imports) Market Share Breakdown (Dec 2021)



Source: Silk Road Research, China Passenger Car Association (CPCA)

Registration - Premium Brand (all) Market Share Breakdown (Dec 2021)

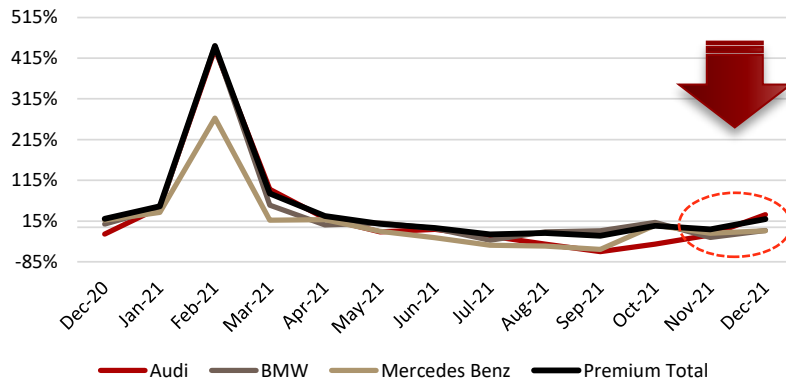


Source: Silk Road Research, Insurance Association of China

Audi, Mercedes Benz and BMW led premium car wholesale sales and registrations

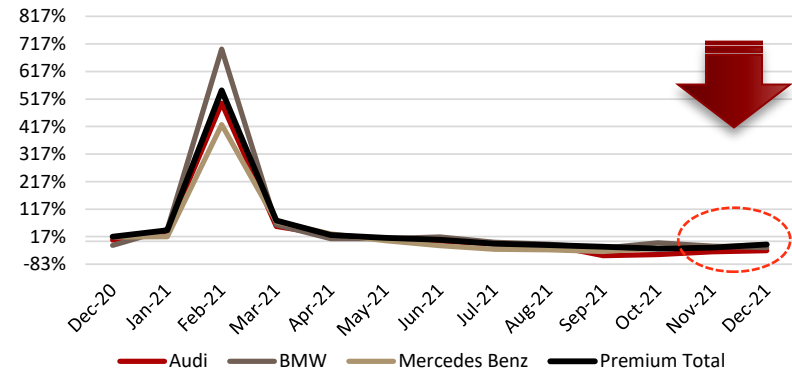
Automotive

Wholesale - Premium (ex-imports) by Foreign Brand (Y/Y % Change)



Source: Silk Road Research, China Passenger Car Association (CPCA)

Registration - Premium (all) by Foreign Brand (Y/Y % Change)

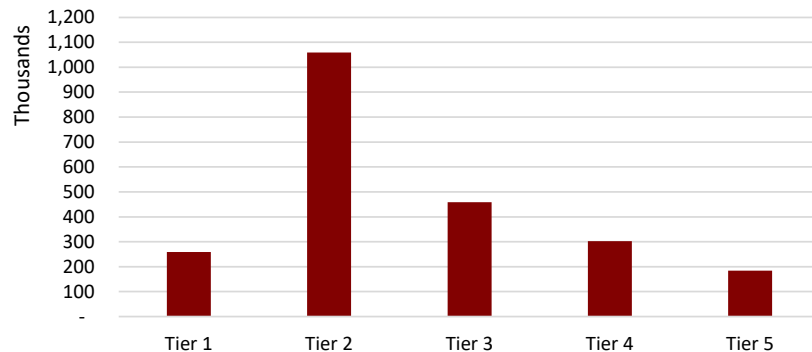


Source: Silk Road Research, Insurance Association of China

Audi registrations underperformed significantly for the fourth month in a row;
Audi wholesale turned positive after seven consecutive months of negative growth

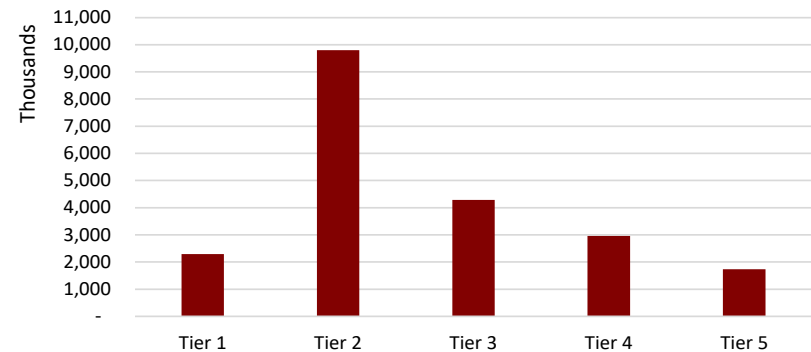
Automotive

Dec 2021: Registrations by Tier (incl imports)



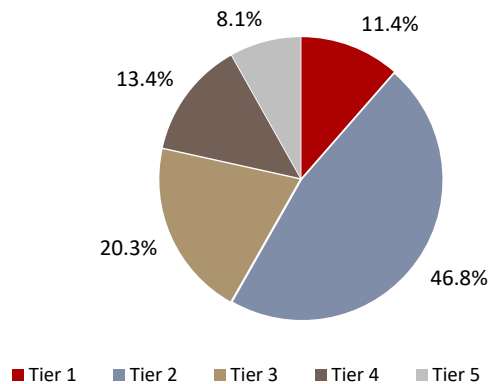
Source: Silk Road Research, Insurance Association of China

2021: Registrations by Tier (incl imports)



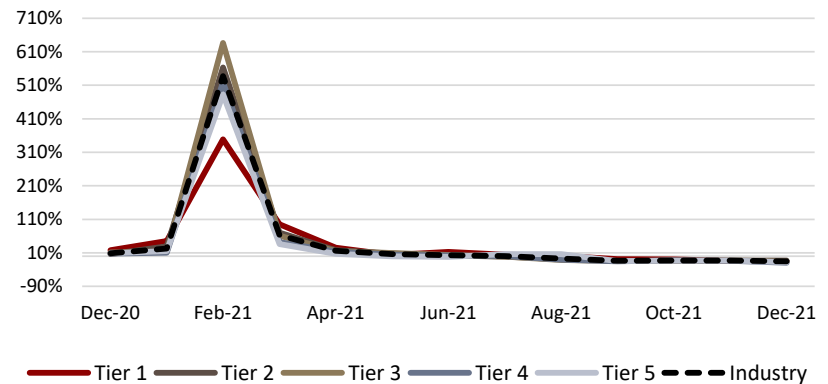
Source: Silk Road Research, Insurance Association of China

Registration - Market Share (all) by Tier (Dec 2021)



Source: Silk Road Research, Insurance Association of China

Dec 2021: Registrations by Tier (incl imports) - Y/Y% Change

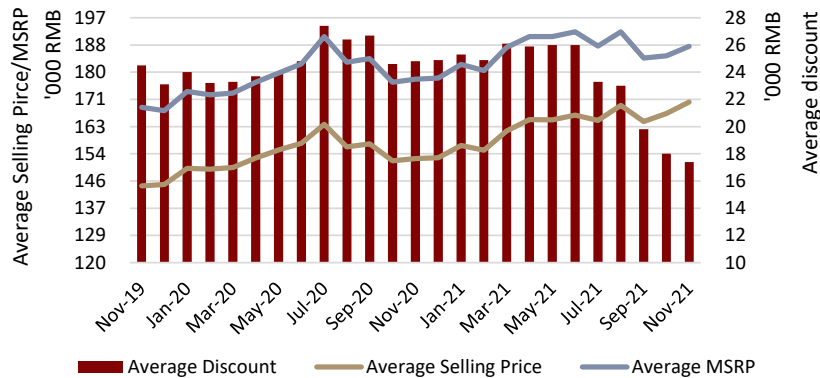


Source: Silk Road Research, Insurance Association of China

Tier 1-2 cities market share ticked down in Dec;
All tiers (ex-Tier 2) registrations growth underperformed

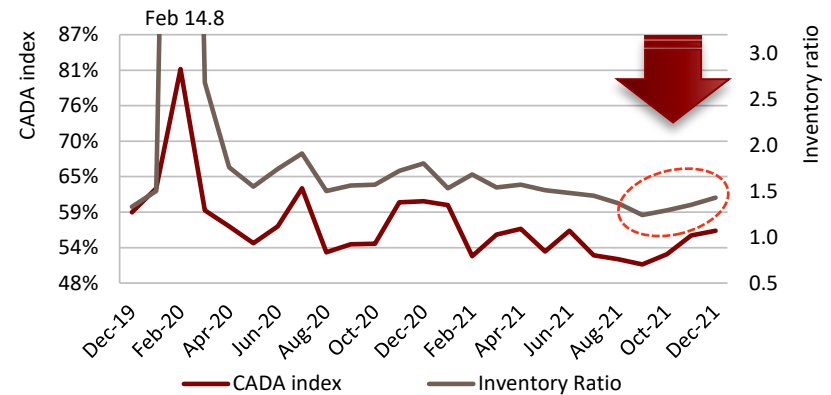
Automotive

Passenger Vehicles Pricing/Discount



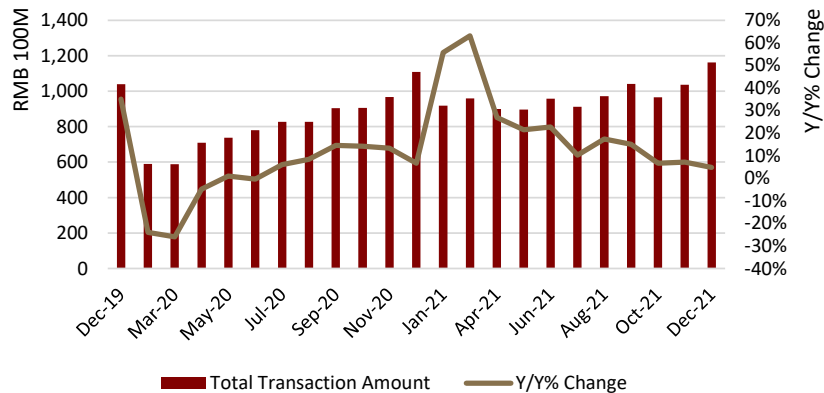
Source: Silk Road Research, Wind Information, China Automobile Dealers Association (CADA)

Auto Dealer Inventory Trends



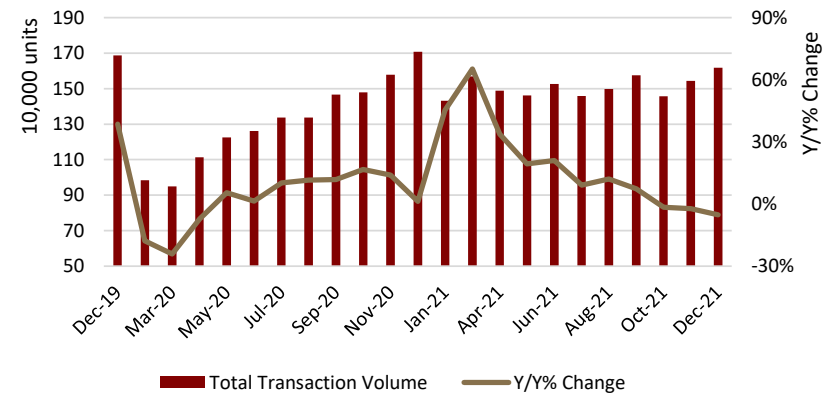
Source: Silk Road Research, China Automobile Dealers Association

Used Cars Total Transaction Value - Monthly



Source: Silk Road Research, Wind Information, China Automobile Dealers Association

Used Cars Total Transaction Volume - Monthly



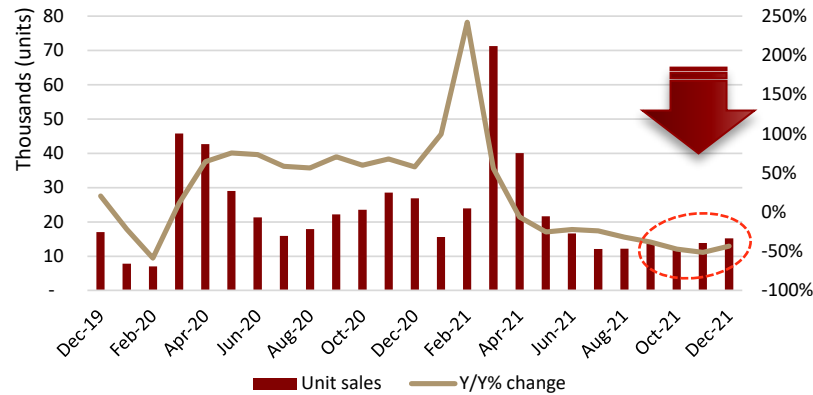
Source: Silk Road Research, Wind Information, China Automobile Dealers Association

Dealer inventory warning index ticked up to 56.1% in Dec vs. 55.4% in Nov;
Dealer inventory ratio ticked up to 1.43 months in Dec vs. 1.35 months in Nov

INDUSTRY DATA – CONSTRUCTION EQUIPMENT

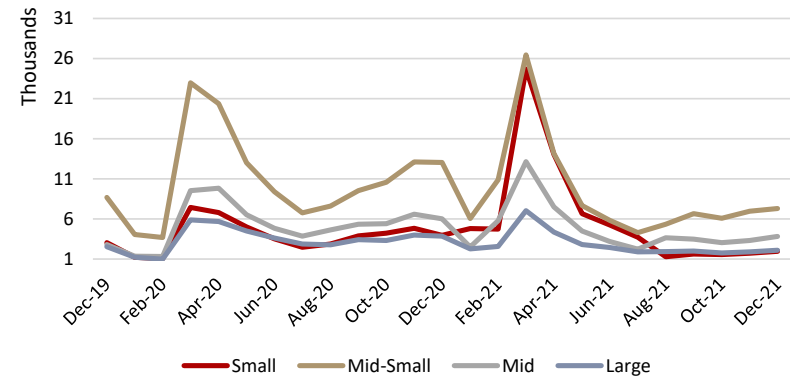
Construction Equipment

Excavator Sales - Domestic Total



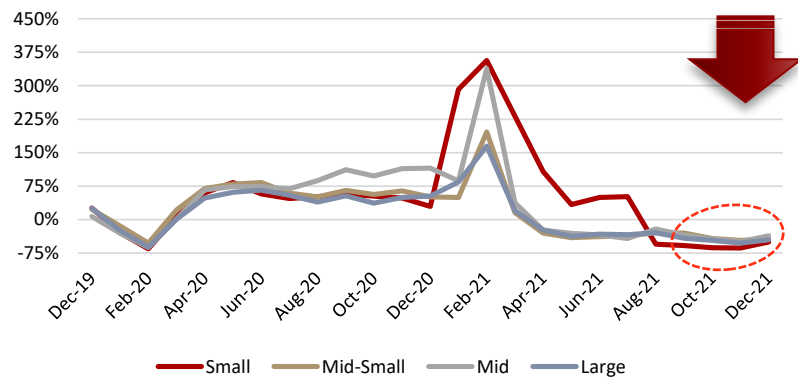
Source: Silk Road Research, China Construction Machinery Association (CCMA)

Excavator Sales - By Size (Units)



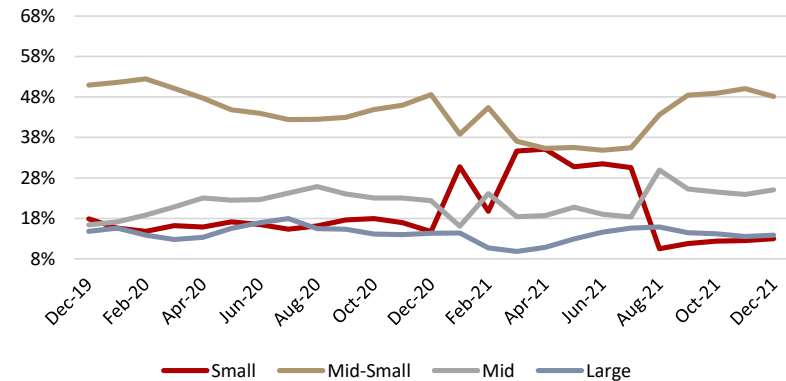
Source: Silk Road Research, China Construction Machinery Association (CCMA)

Excavator Sales - By Size (Y/Y % Change)



Source: Silk Road Research, China Construction Machinery Association (CCMA)

Excavator Sales - Market Share by Size

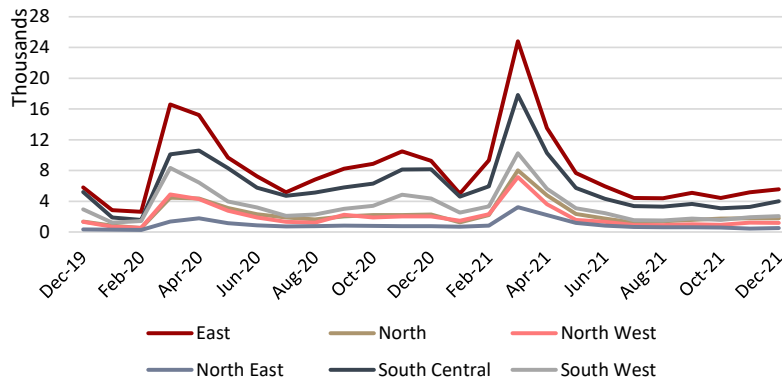


Source: Silk Road Research, China Construction Machinery Association (CCMA)

Excavator sales growth decline moderated to -43.5% y/y in Dec vs. -51.3% in Nov;
Small-size growth decline moderated to -50.2% y/y in Dec vs. -64.1% in Nov

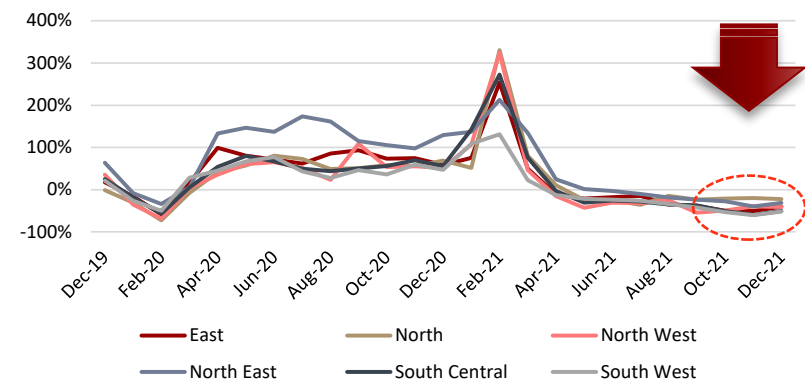
Construction Equipment

Excavator Sales - Regional Breakdown (Units)



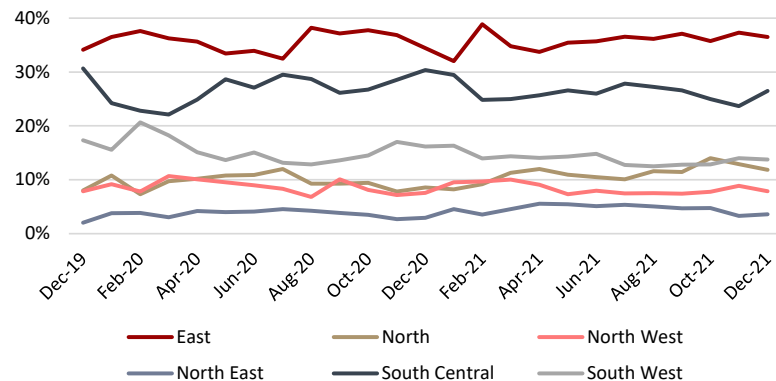
Source: Silk Road Research, China Construction Machinery Association (CCMA)

Excavator Sales - Regional Breakdown (Y/Y % Change)



Source: Silk Road Research, China Construction Machinery Association (CCMA)

Excavator Sales - Market Share by Region

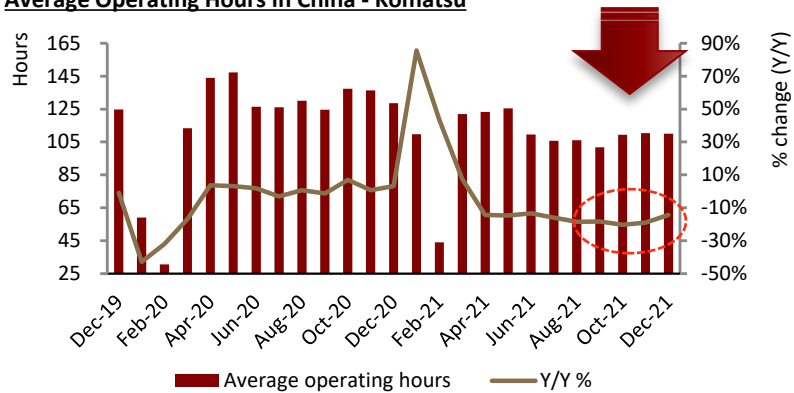


Source: Silk Road Research, China Construction Machinery Association (CCMA)

Excavator sales growth ticked up across all regions (ex-North and North West regions)

Construction Equipment

Average Operating Hours in China - Komatsu



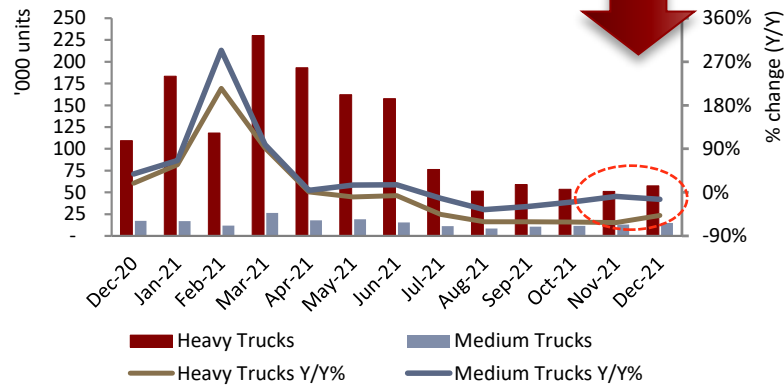
Source: Silk Road Research, Komatsu

Komatsu avg. op hours growth remained negative at -14.4% y/y in Dec vs. -19.1% in Nov

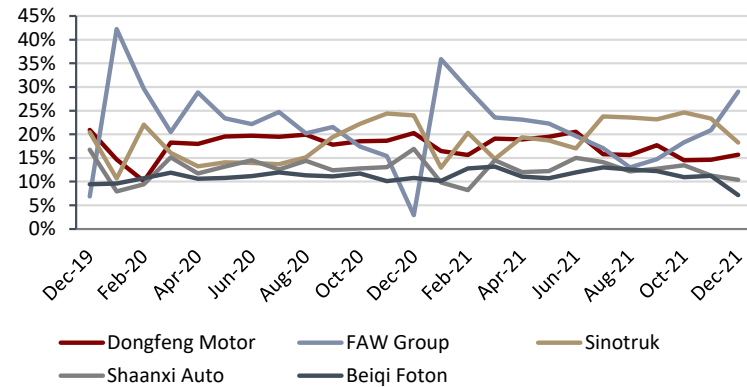
INDUSTRY DATA – COMMERCIAL VEHICLE

Commercial Vehicle

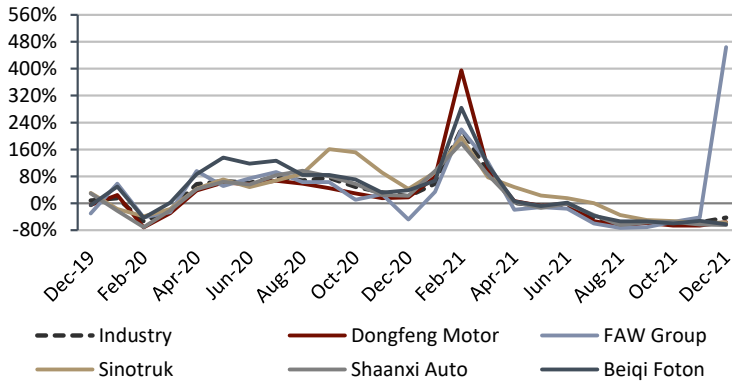
Heavy and Medium Truck Sales



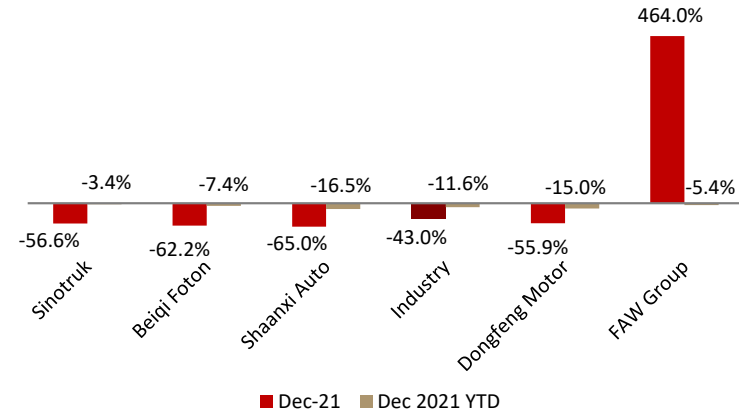
Heavy + Medium Truck Sales - Market Share by OEM



Heavy + Medium Truck Sales - By OEM (Y/Y % Change)



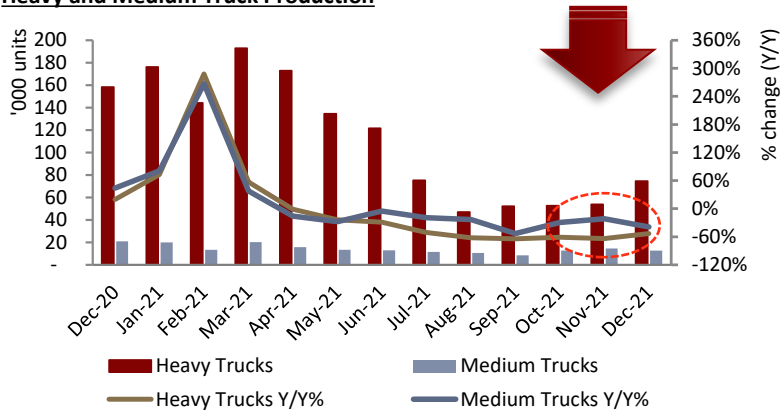
Heavy + Medium Truck Sales - By OEM (Y/Y % Change)



H/D + M/D truck sales growth remained deeply negative at -43.0% y/y in Dec vs. -57.1% in Nov

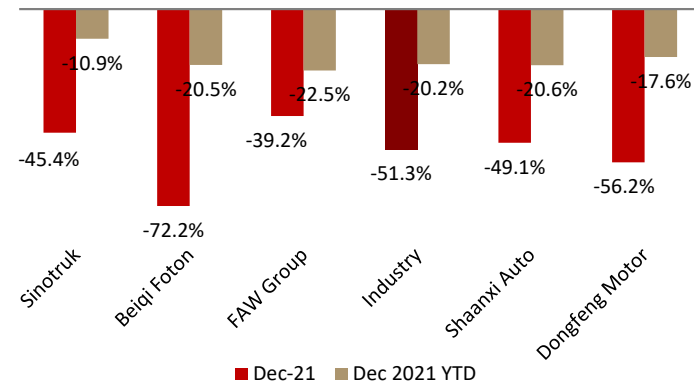
Commercial Vehicle

Heavy and Medium Truck Production



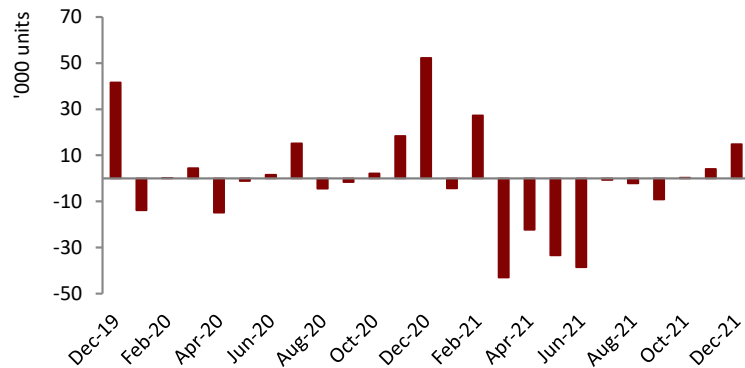
Source: Silk Road Research, China Association of Automobile Manufacturers

Heavy + Medium Truck Production - By OEM (Y/Y % Change)



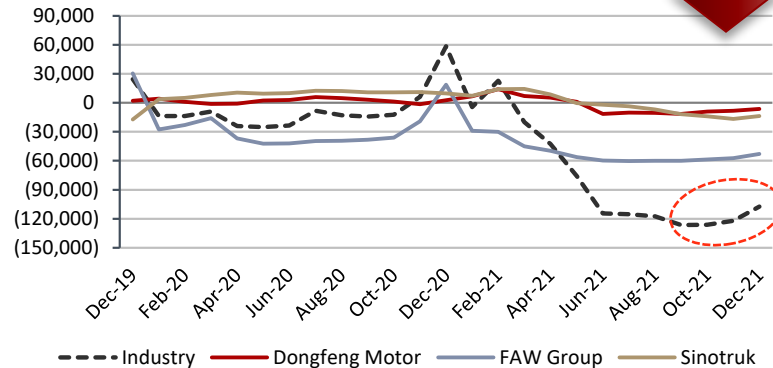
Source: Silk Road Research, China Association of Automobile Manufacturers

Heavy + Medium Truck Inventory Change



Source: Silk Road Research, China Association of Automobile Manufacturers

Heavy + Medium Truck YTD Inventory Change by OEM



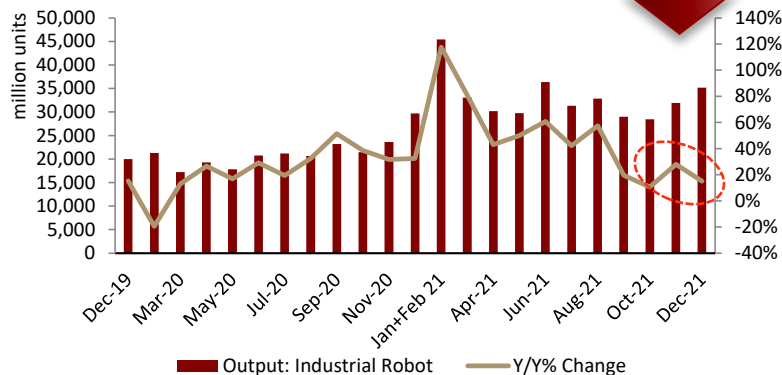
Source: Silk Road Research, China Association of Automobile Manufacturers

H/D + M/D truck production growth remained negative at -51.3% y/y in Dec vs. -59.4% in Nov; Implied truck inventory levels increased slightly

INDUSTRY DATA – AUTOMATION

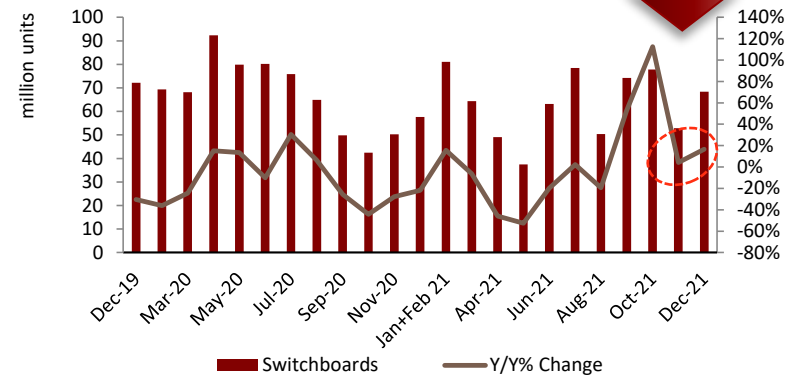
Automation

Industrial Robot Production



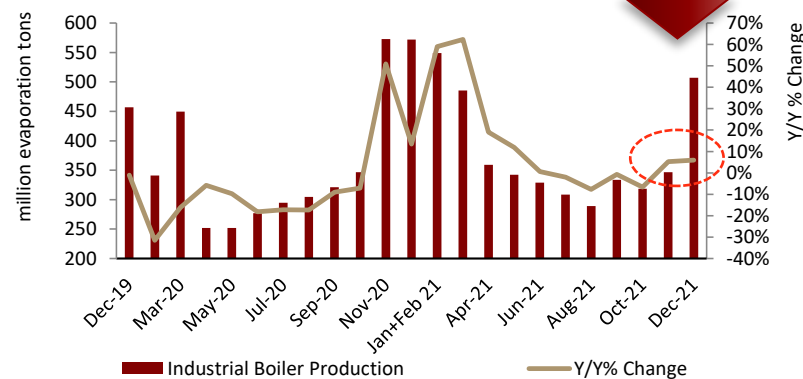
Source: Silk Road Research, Wind Information, National Bureau of Statistics (NBS)

Switchboards Production



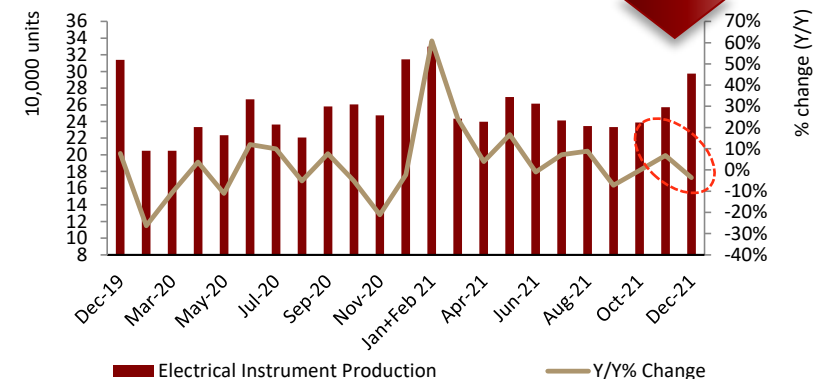
Source: Silk Road Research, Wind Information, National Bureau of Statistics (NBS)

Industrial Boiler Production



Source: Silk Road Research, Wind Information, National Bureau of Statistics (NBS)

Electrical Instrument Production

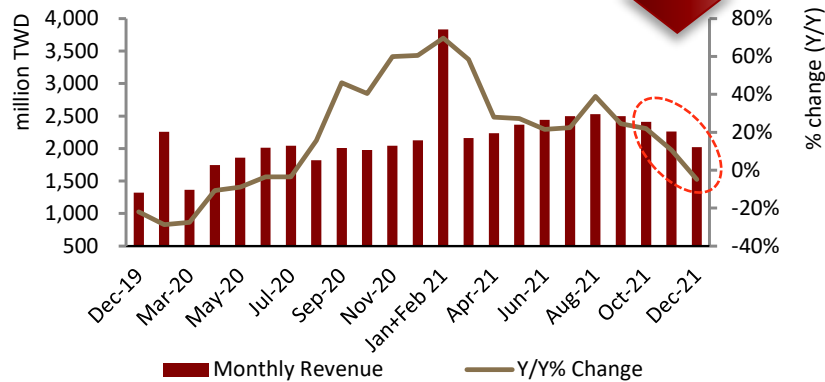


Source: Silk Road Research, Wind Information, National Bureau of Statistics (NBS)

Switchboards and Industrial Boiler production growth accelerated in Dec; Industrial Robots production growth moderated; Instruments production growth turned negative

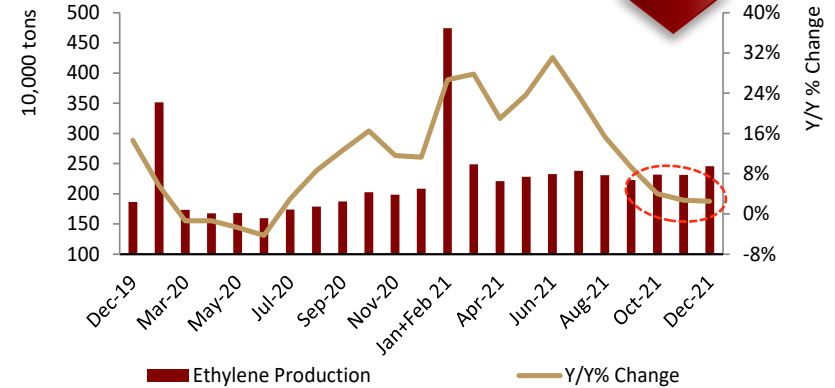
Automation

Monthly Revenue- Hiwin



Source: Silk Road Research, Hiwin

Ethylene Production



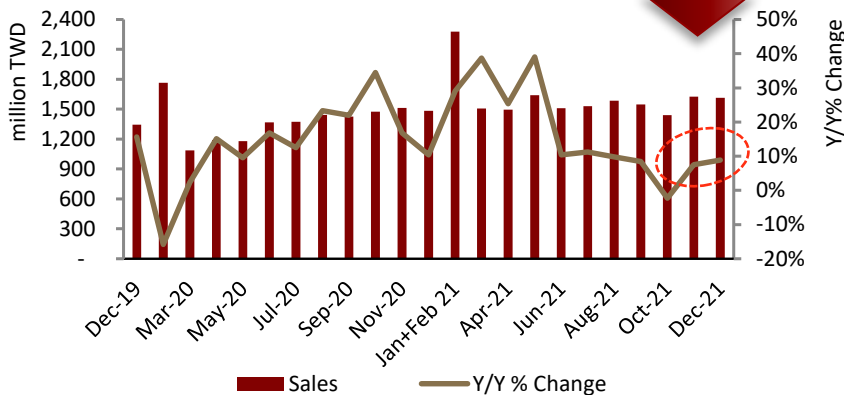
Source: Silk Road Research, Wind Information, National Bureau of Statistics (NBS)

Hiwin revenue growth turned negative to -4.8% y/y in Dec vs. +10.6% in Nov;
Ethylene production growth was relatively stable at +2.5% y/y in Dec vs. +2.7% in Nov

INDUSTRY DATA – ELEVATOR

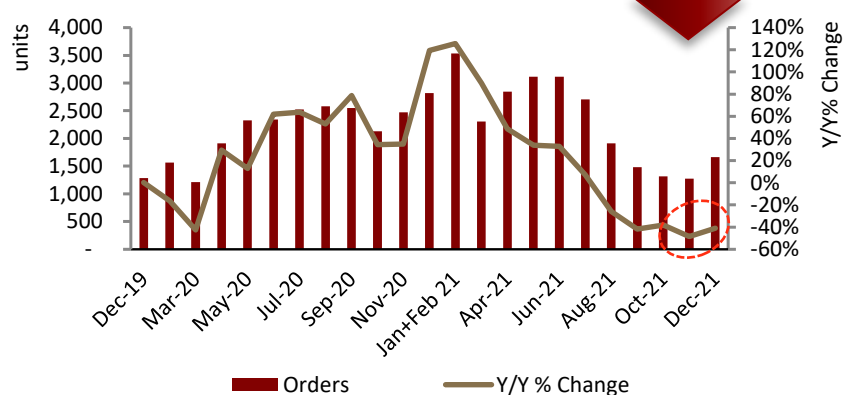
Elevator

Elevator Sales - Yungtay



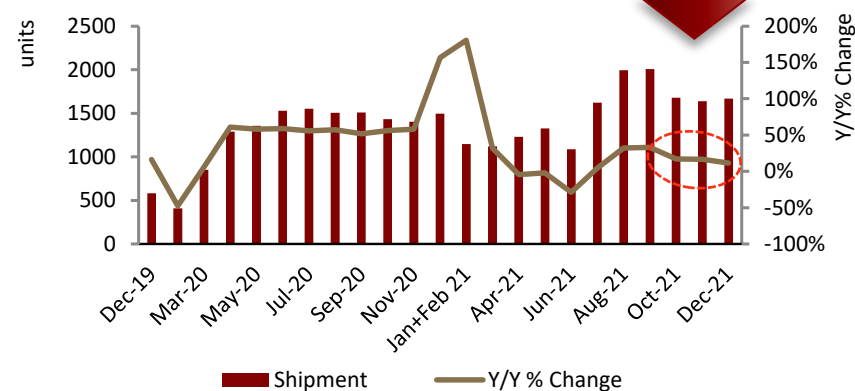
Source: Silk Road Research, Yungtay

Elevator Orders - Yungtay



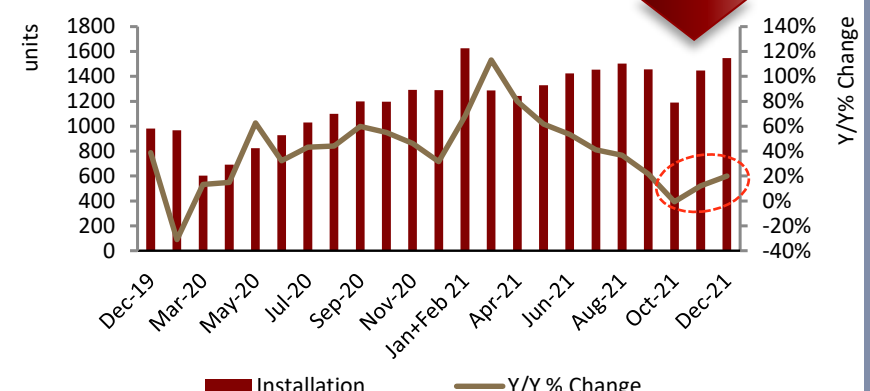
Source: Silk Road Research, Yungtay

Elevator Shipments - Yungtay



Source: Silk Road Research, Yungtay

Elevator Installations - Yungtay

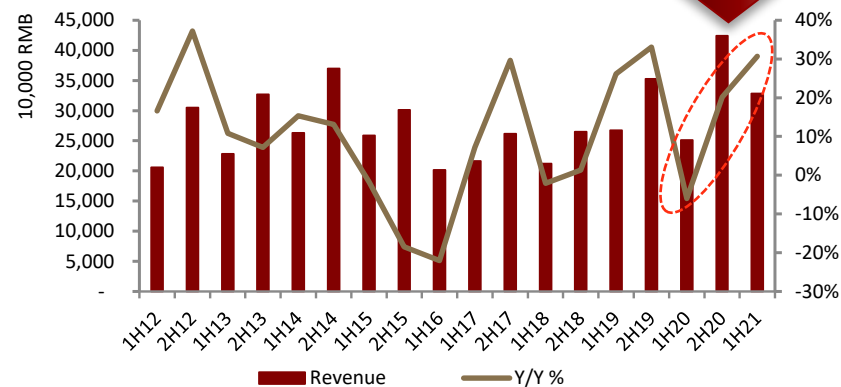


Source: Silk Road Research, Yungtay

Yungtay orders growth decline moderated to -40.9% y/y in Dec vs. -48.5% in Nov;
Installations and Sales growth ticked up; Shipment growth ticked down

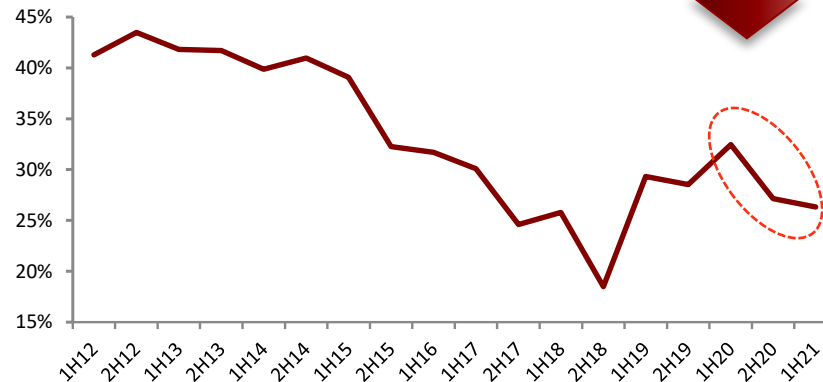
Elevator

Shanghai STEP - Elevator Control Revenue



Source: Silk Road Research, Wind Financial

Shanghai STEP - Elevator Control Gross Margin



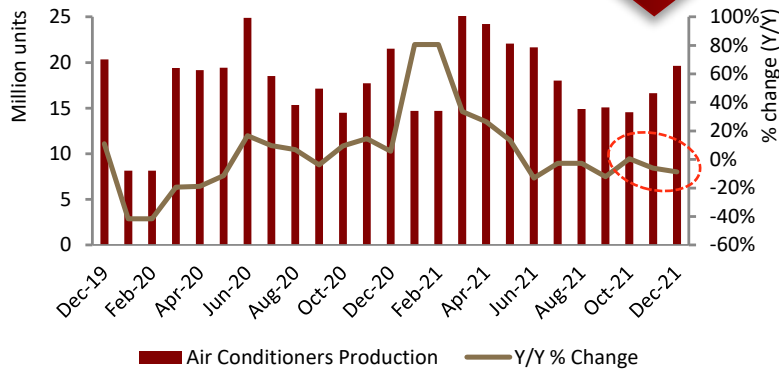
Source: Silk Road Research, Wind Financial

Shanghai STEP revenue growth accelerated to +31% y/y in 1H21 (2H20 +20% y/y, FY20 +9% y/y, FY19 +30%); Gross margin narrowed to 26% (2H20 27%), FY20 flat at 29%

INDUSTRY DATA – WHITE GOODS

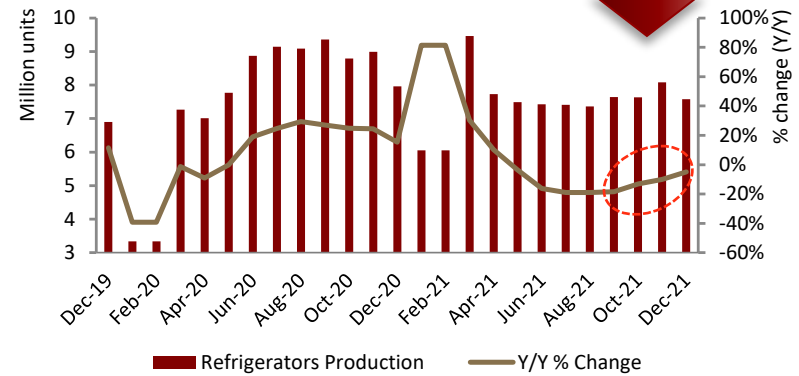
White Goods

Air Conditioner Production



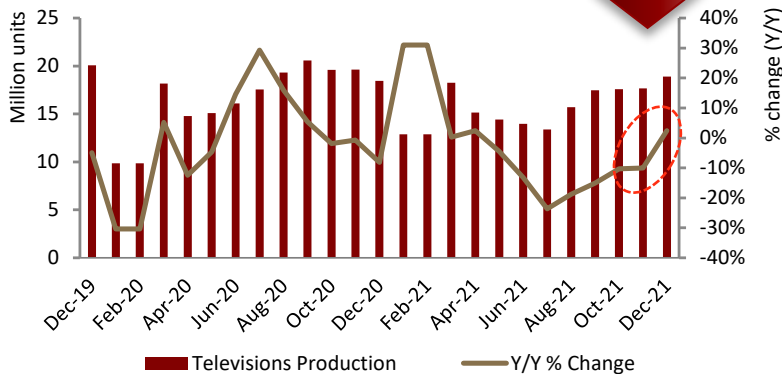
Source: Silk Road Research, National Bureau of Statistics

Refrigerator Production



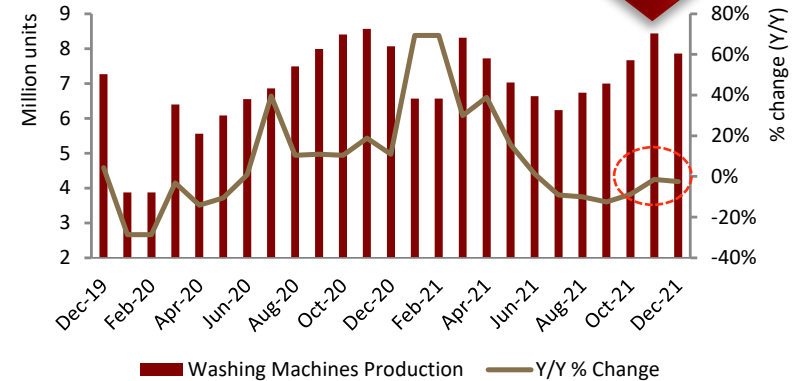
Source: Silk Road Research, National Bureau of Statistics

Television Production



Source: Silk Road Research, National Bureau of Statistics

Washing Machine Production



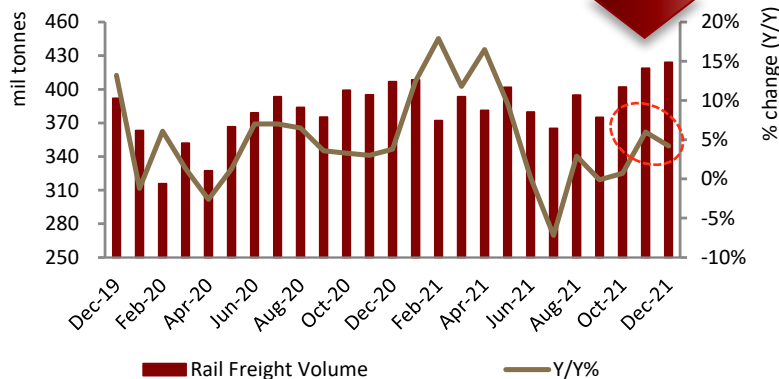
Source: Silk Road Research, National Bureau of Statistics

Air Conditioner and Washing Machine production growth remained negative; Refrigerator production growth ticked up; Television production growth turned positive

INDUSTRY DATA – REAL ACTIVITY INDICATORS

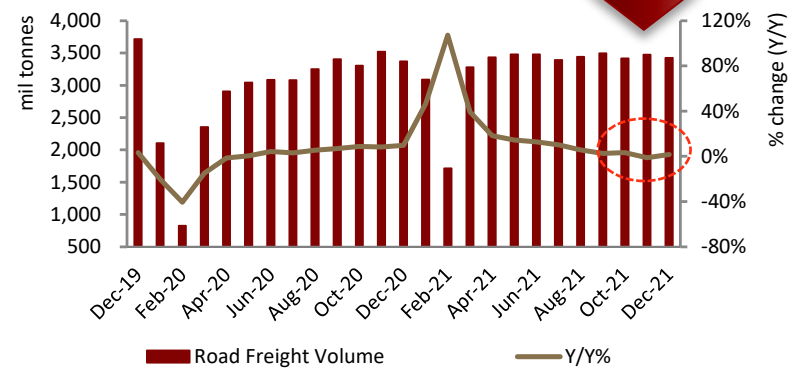
Real Activity Indicators

Rail Freight Volume



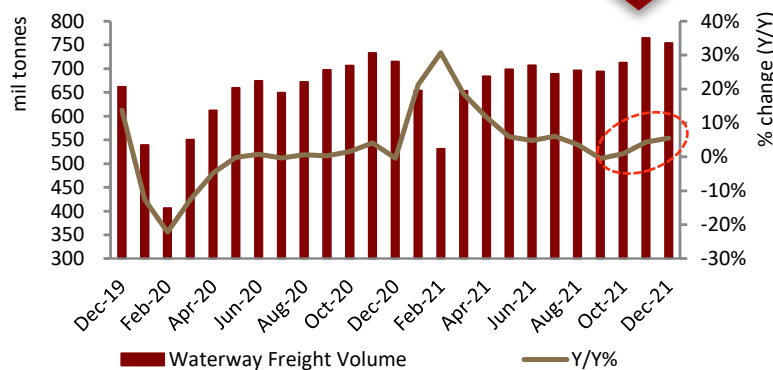
Source: Silk Road Research, National Bureau of Statistics

Road Freight Volume



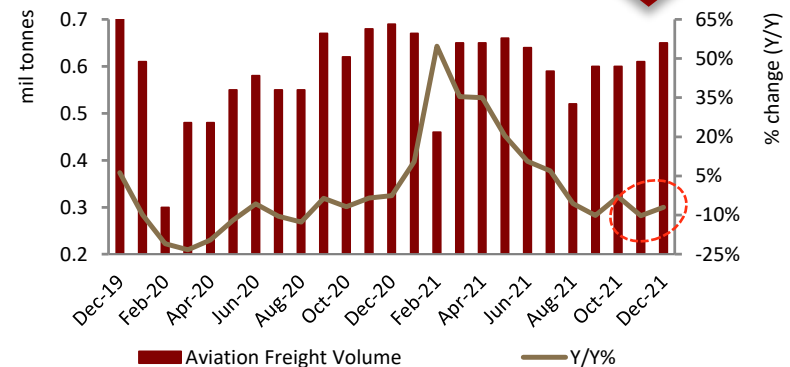
Source: Silk Road Research, National Bureau of Statistics

Waterway Freight Volume



Source: Silk Road Research, National Bureau of Statistics

Aviation Freight Volume

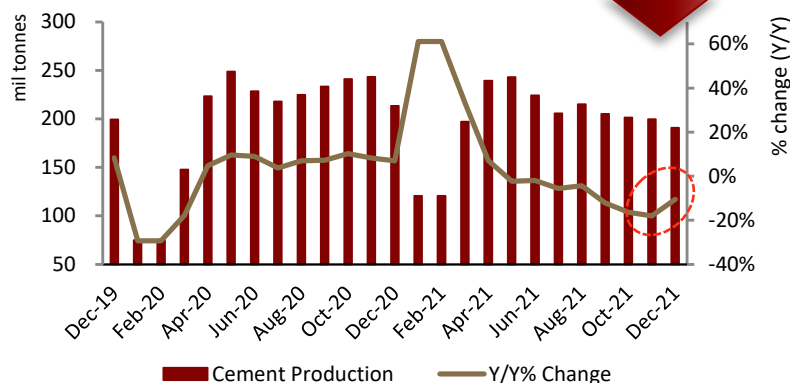


Source: Silk Road Research, National Bureau of Statistics

Rail freight growth moderated; Waterway and Aviation freight growth ticked up;
Road freight growth turned positive

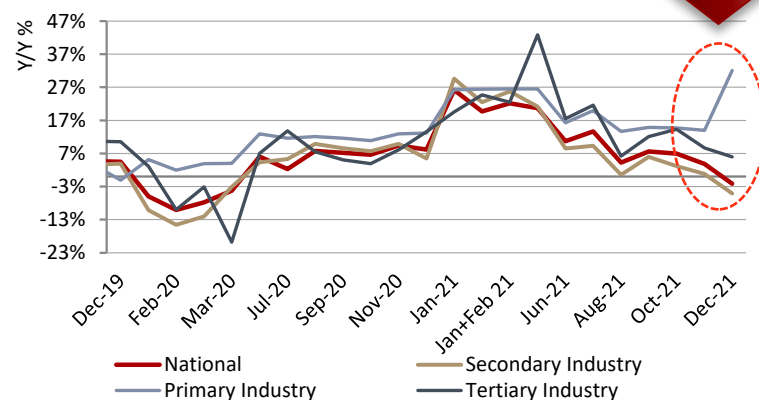
Real Activity Indicators

Cement Production



Source: Silk Road Research, National Bureau of Statistics of China

Power Consumption - by Industry



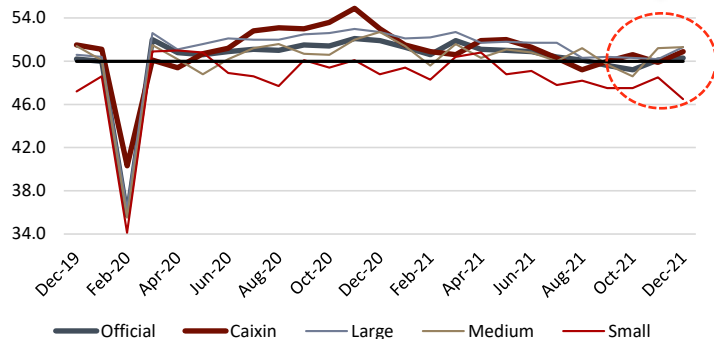
Source: Silk Road Research, National Bureau of Statistics of China

Cement production growth decline moderated to -10.5% y/y in Dec vs. -18.0% in Nov;
Power consumption growth turned negative to -2.2% y/y in Dec vs. +3.9% in Nov

ECONOMIC DATA

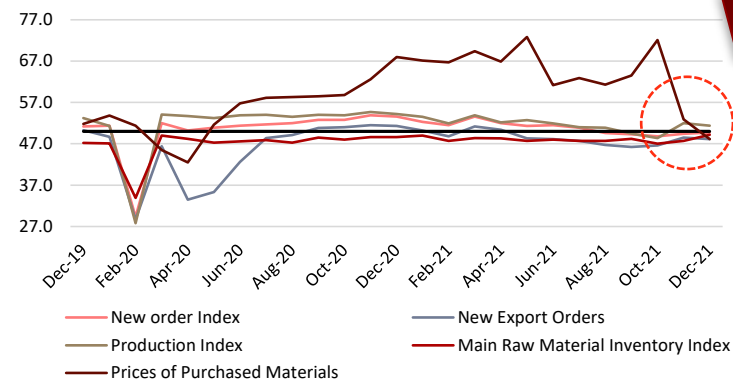
Economic Data

Official and Caixin Manufacturing PMI



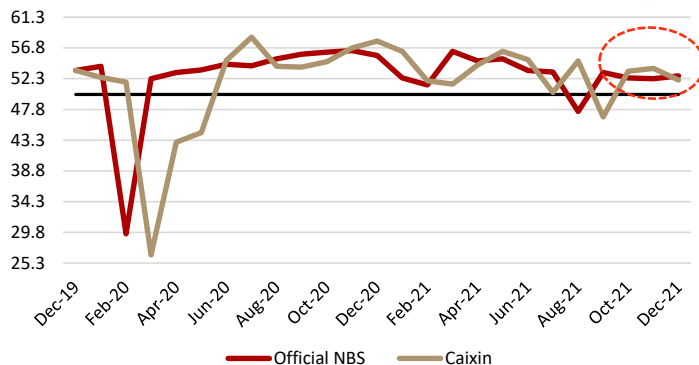
Source: Silk Road Research , National Bureau of Statistics of China

Official Manufacturing PMI Components



Source: Silk Road Research , National Bureau of Statistics of China

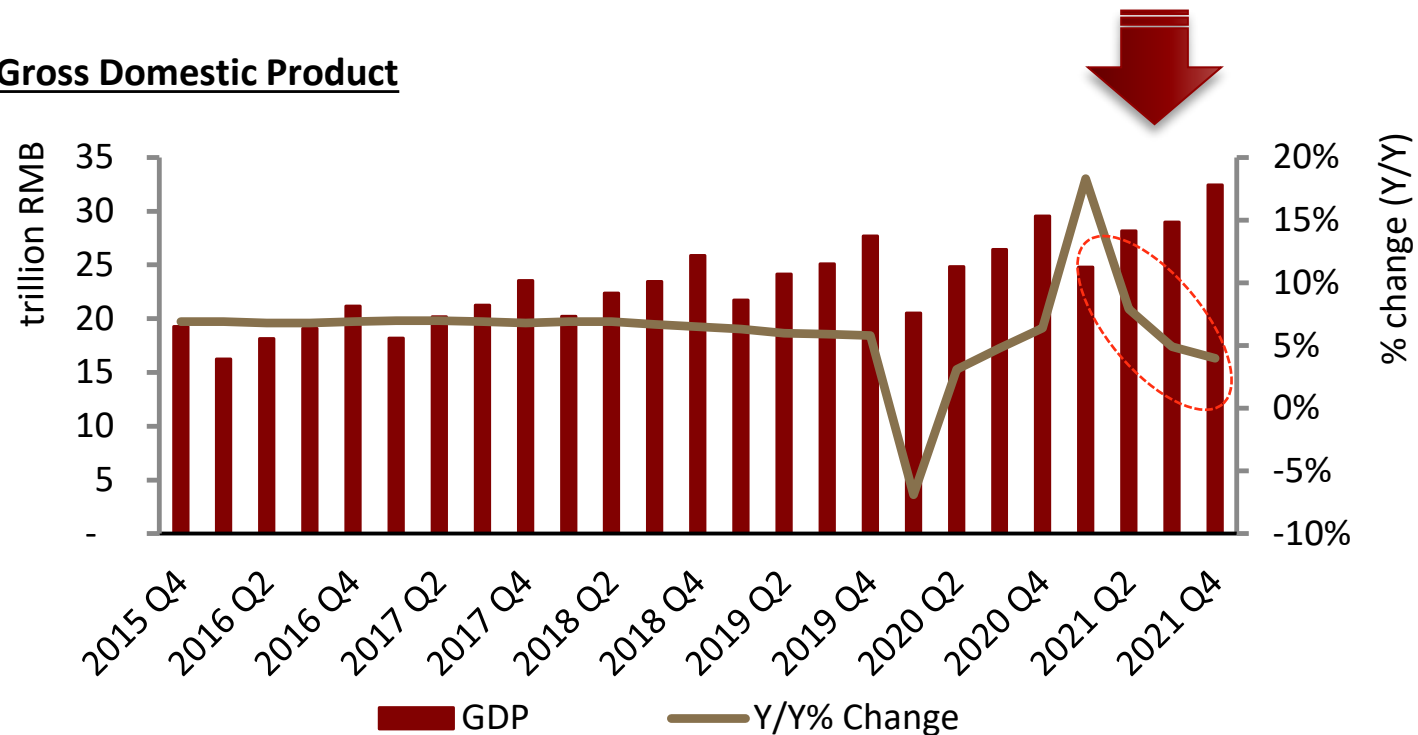
Official and Caixin Services PMI



Source: Silk Road Research , National Bureau of Statistics of China

Official mfg rose to a 5-mth high while services PMI rose to a 3-mth high in Dec;
New export orders and small firms remained <50; Caixin mfg PMI re-accelerated to >50

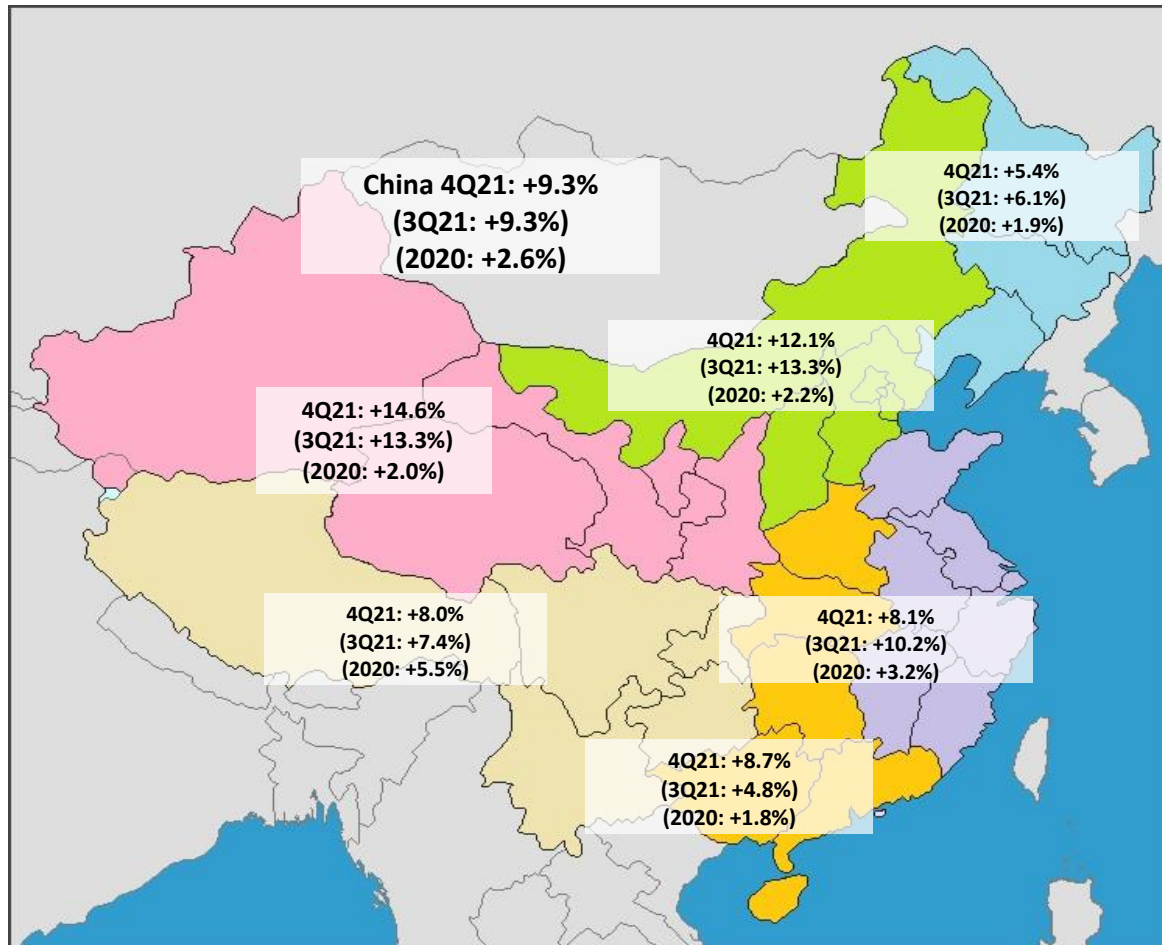
Gross Domestic Product



Source: Silk Road Research, National Bureau of Statistics of China

GDP growth ticked down to +4.0% y/y in 4Q21 vs. +4.9% in 3Q21 due to tougher comps

SRR Macro Momentum Indicator



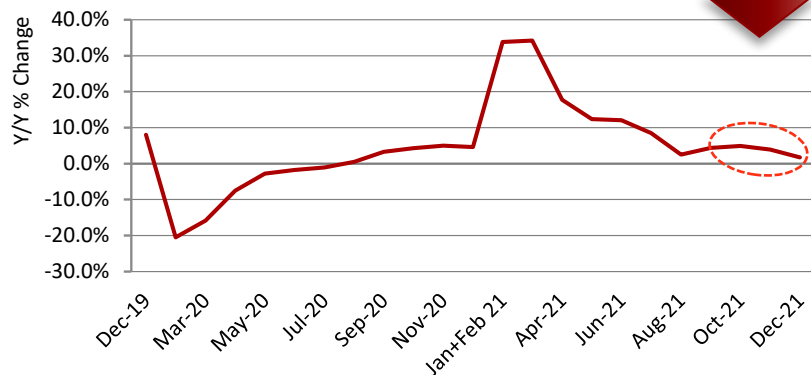
Source: Silk Road Research, Local municipalities official reports

Note: GDP calculations are based on nominal GDP figures reported by the government

2021 4Q GDP below average: South Central, Northeast, South West, East
2021 4Q GDP above average: Northwest, North

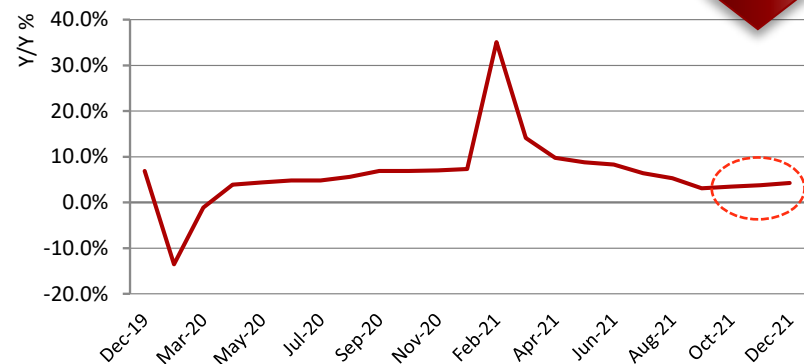
Economic Data

Retail Sales



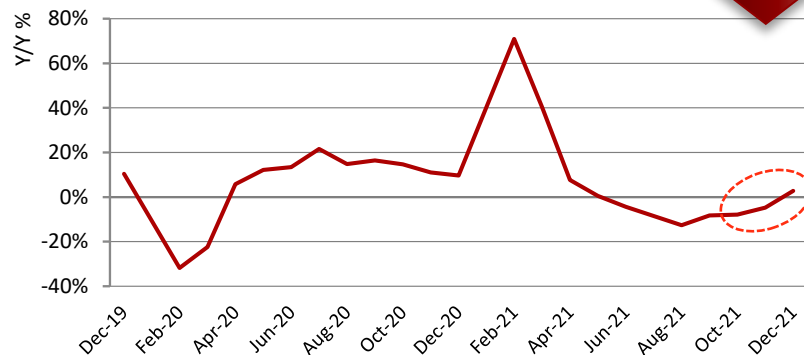
Source: Silk Road Research, National Bureau of Statistics of China

Industrial Production



Source: Silk Road Research, National Bureau of Statistics of China

Industrial Production - Automotive

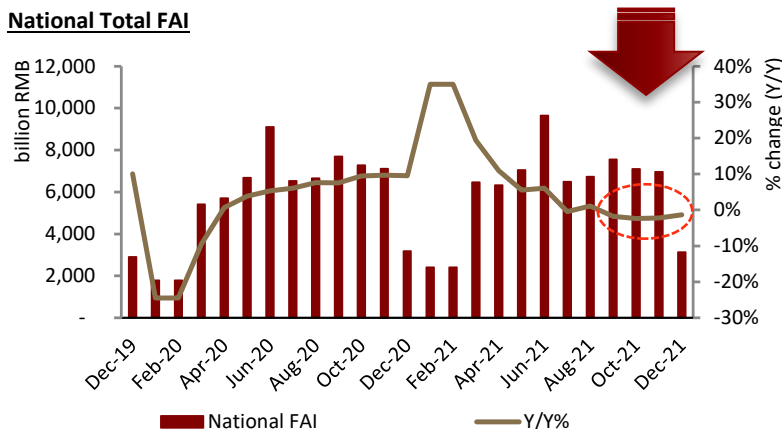


Source: Silk Road Research, National Bureau of Statistics of China

Retail sales growth ticked down to +1.7% y/y in Dec vs. +3.9% in Nov;
Industrial production growth ticked up +4.3% y/y in Dec vs. +3.8% in Nov

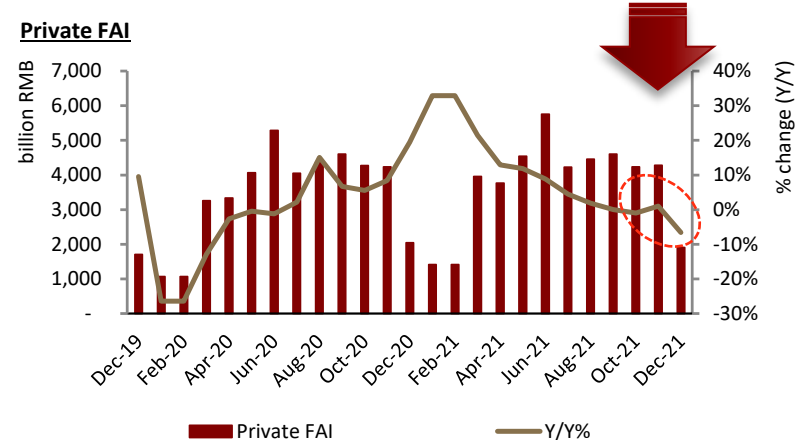
Economic Data

National Total FAI



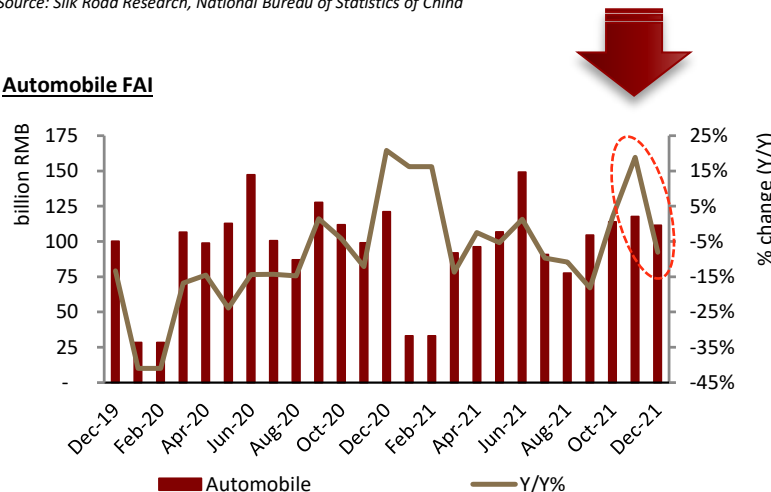
Source: Silk Road Research, National Bureau of Statistics of China

Private FAI



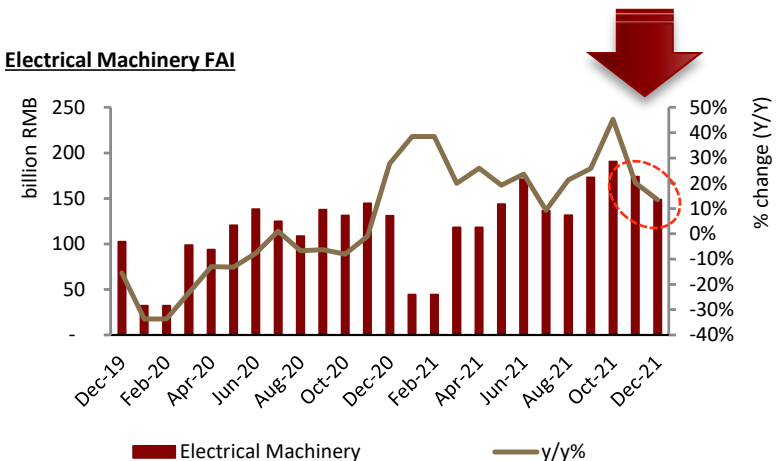
Source: Silk Road Research, National Bureau of Statistics of China

Automobile FAI



Source: Silk Road Research, National Bureau of Statistics of China

Electrical Machinery FAI

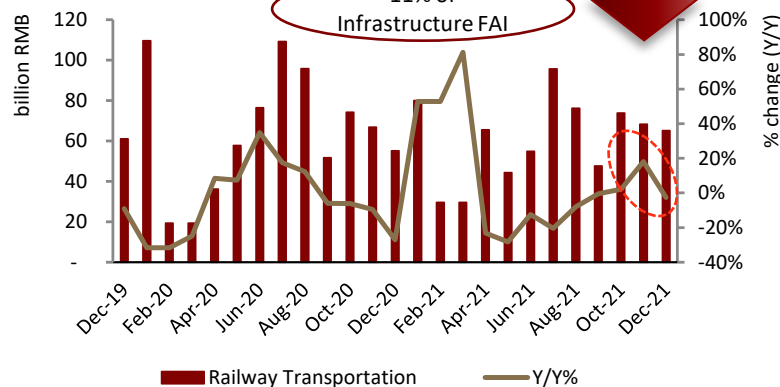


Source: Silk Road Research, National Bureau of Statistics of China

National FAI growth ticked up; Auto and Private FAI turned negative;
Electrical Machinery FAI ticked down

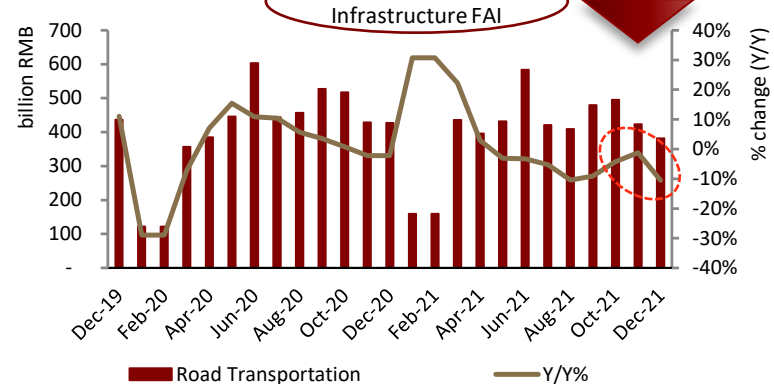
Economic Data

Railway Transportation FAI



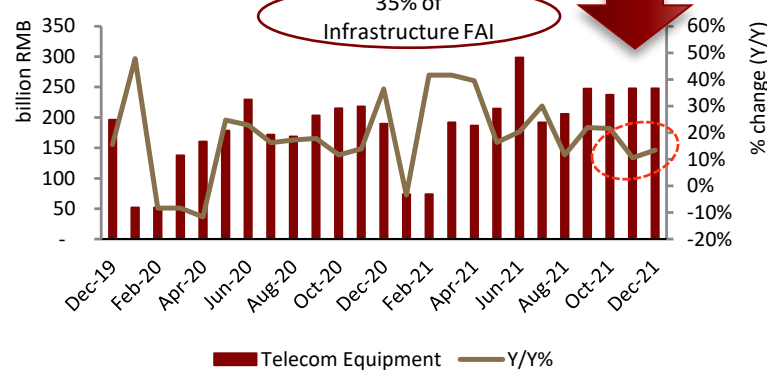
Source: Silk Road Research, National Bureau of Statistics of China

Road Transportation FAI



Source: Silk Road Research, National Bureau of Statistics of China

Telecom Equipment FAI

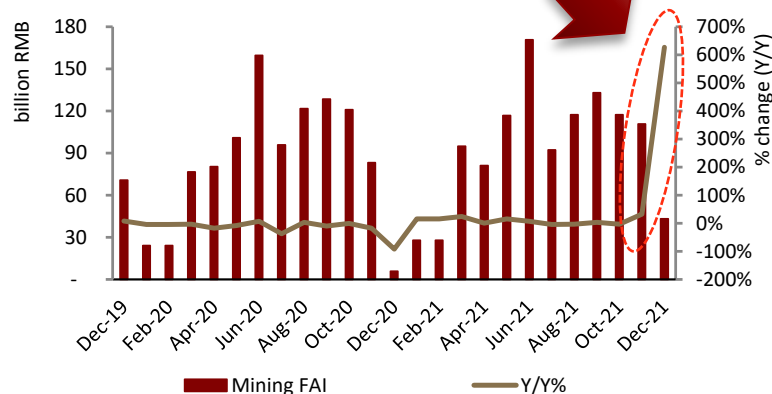


Source: Silk Road Research, National Bureau of Statistics of China

Telecom FAI growth ticked up in Dec;
Rail FAI growth turned negative; Road FAI growth ticked down

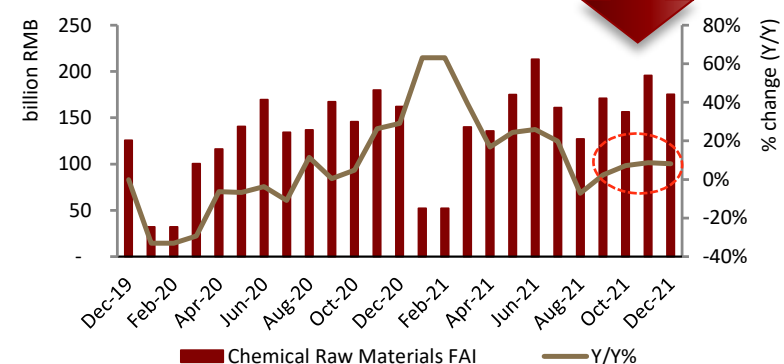
Economic Data

Mining FAI



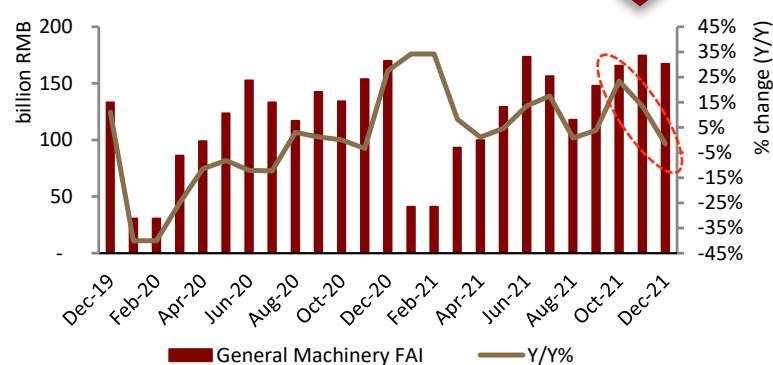
Source: Silk Road Research, National Bureau of Statistics of China

Chemical Raw Materials FAI



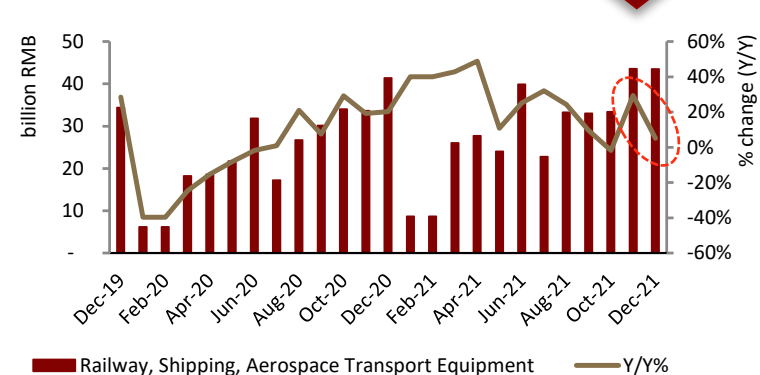
Source: Silk Road Research, National Bureau of Statistics of China

General Machinery FAI



Source: Silk Road Research, National Bureau of Statistics of China

Railway, Shipping, Aerospace Transport Equipment FAI

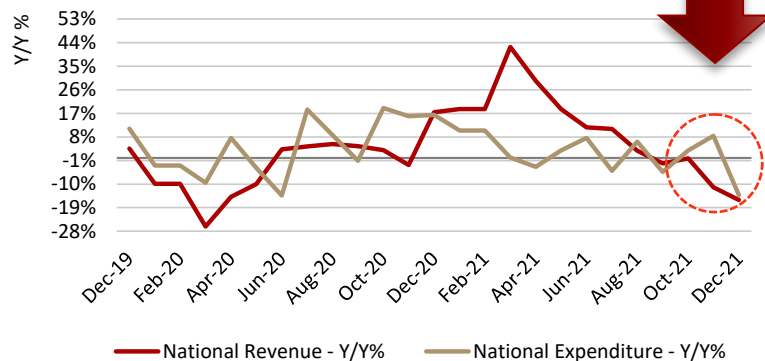


Source: Silk Road Research, National Bureau of Statistics of China

Mining FAI growth accelerated; Transport Equipment and Chemical FAI growth ticked down; General Machinery FAI growth turned negative

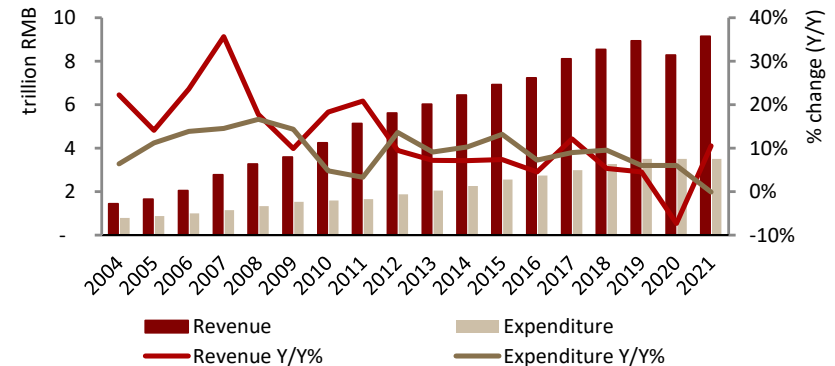
Economic Data

National Fiscal Revenue and Expenditure



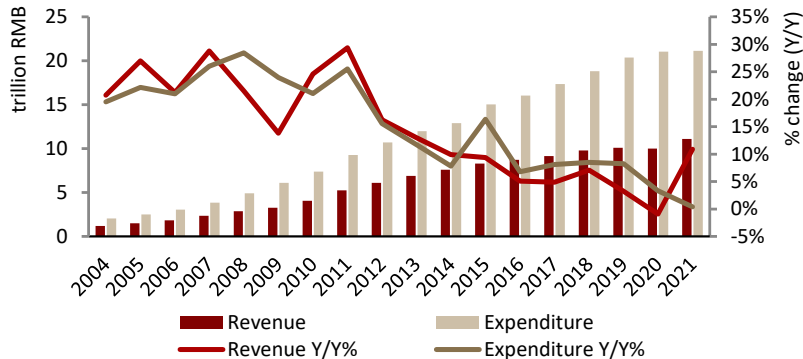
Source: Silk Road Research, National Bureau of Statistics of China

Central Government - Revenue vs Expenditure (Annual)



Source: Silk Road Research, National Bureau of Statistics of China

Local Government - Revenue vs Expenditure (Annual)

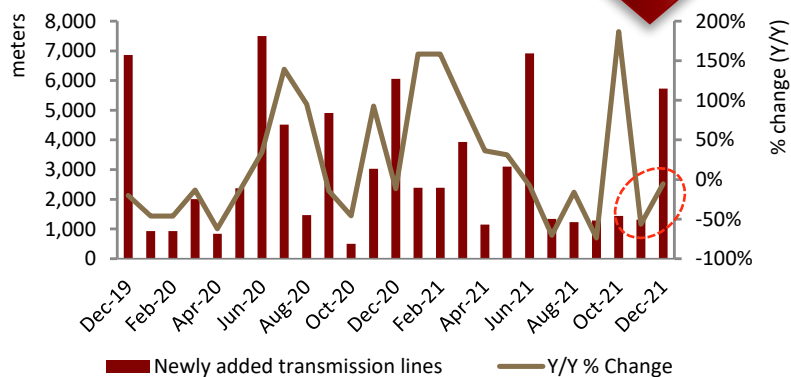


Source: Silk Road Research, National Bureau of Statistics of China

Fiscal revenue growth deteriorated to -16.1% y/y in Dec vs. -11.2% in Nov;
Expenditure growth turned negative to -14.2% y/y in Dec vs. +8.5% in Nov

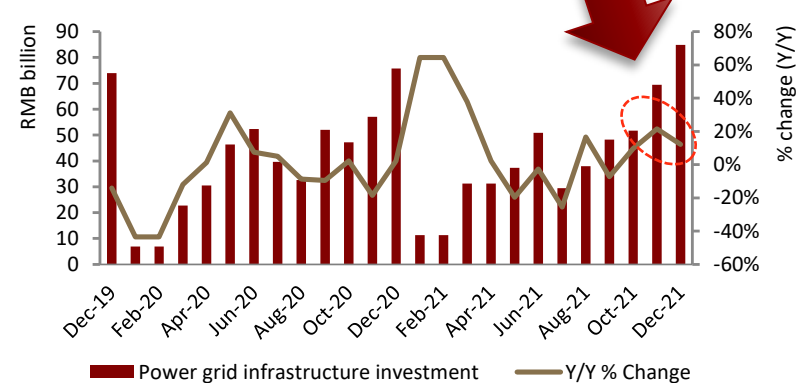
Economic Data

Newly added transmission lines



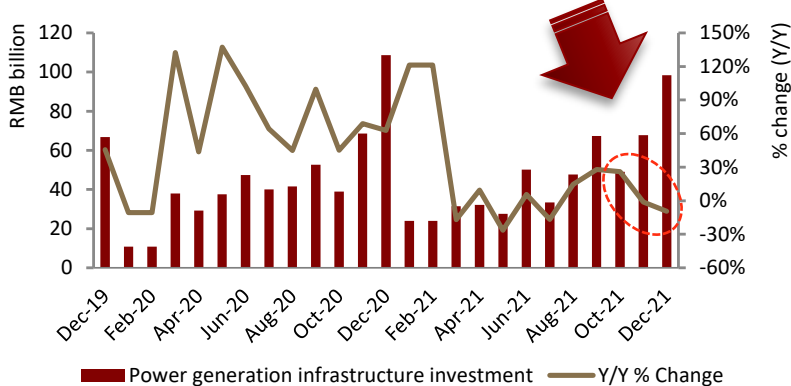
Source: Silk Road Research, State Grid

Power grid infrastructure investment



Source: Silk Road Research, State Grid

Power generation infrastructure investment



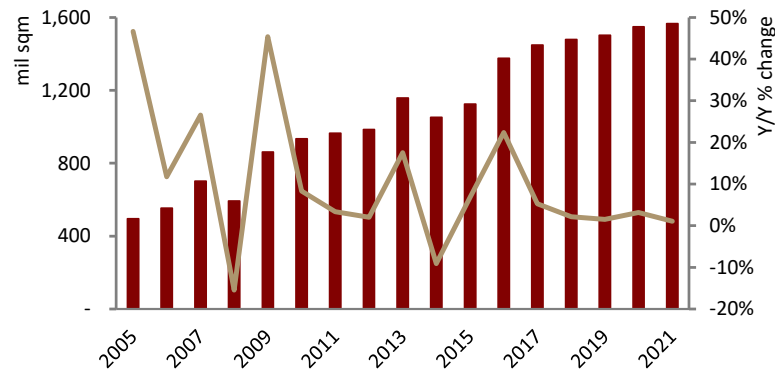
Source: Silk Road Research, State Grid

Newly added transmissions line growth decline moderated; Power grid infra investment growth moderated; Power gen investment growth remained negative

PROPERTY MARKET - RESIDENTIAL

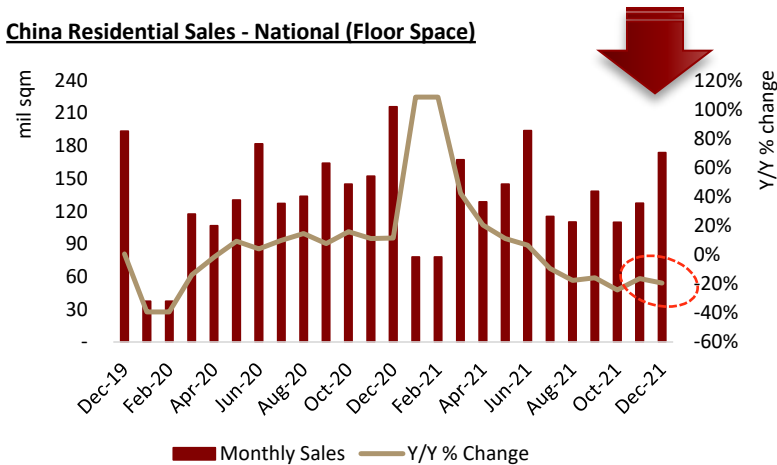
Property Market - Residential

Annual Residential Sales - National (Floor Space)



Source: Silk Road Research, CREIS

China Residential Sales - National (Floor Space)

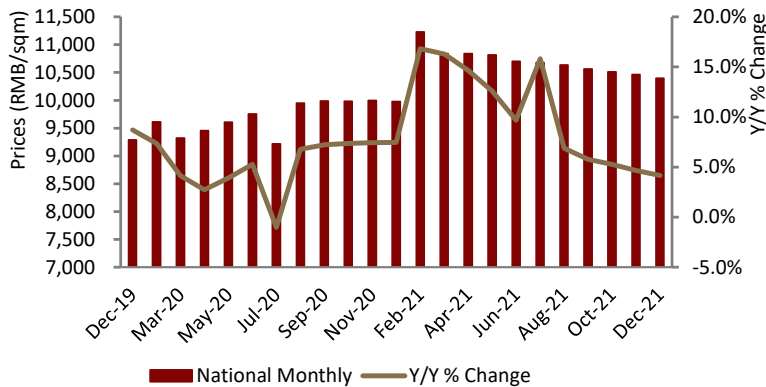


Source: Silk Road Research, CREIS

Residential sales growth deteriorated to -19.4% y/y in Dec vs. -16.3% in Nov

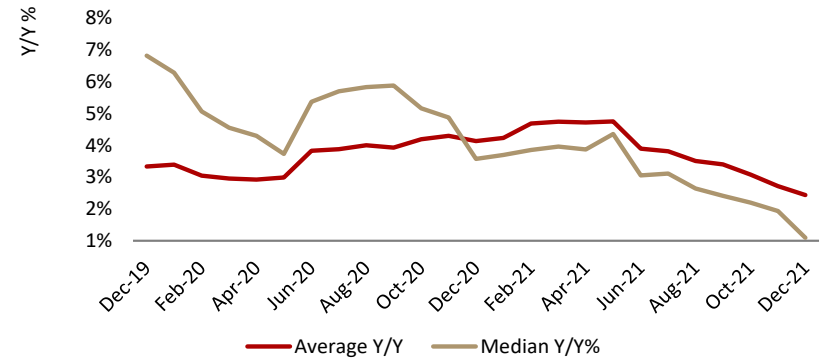
Property Market - Residential

Residential Property - National Average



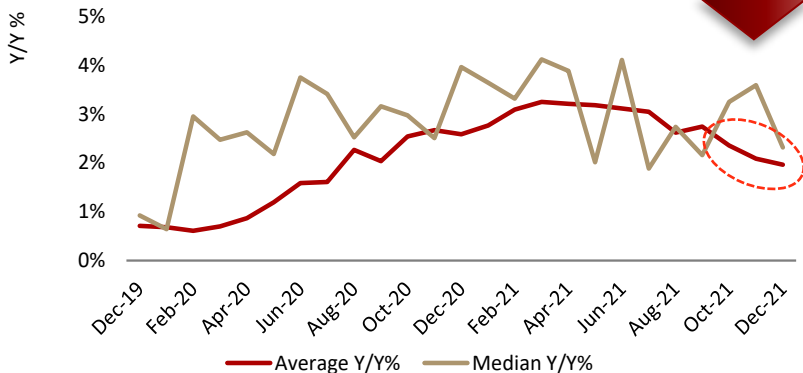
Source: Silk Road Research, CREIS

Home Prices - Top 100 Cities



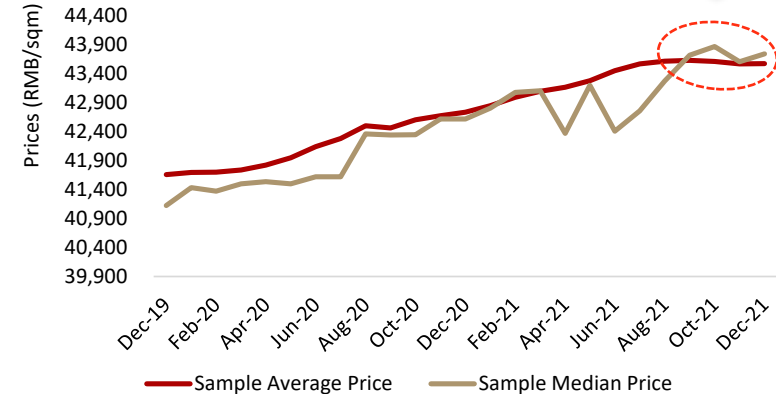
Source: Silk Road Research, National Bureau of Statistics of China, China Index Academy

Home Prices - Tier 1 Cities



Source: Silk Road Research, National Bureau of Statistics of China, China Index Academy

Home Prices - Tier 1 Cities (Average vs. Median)

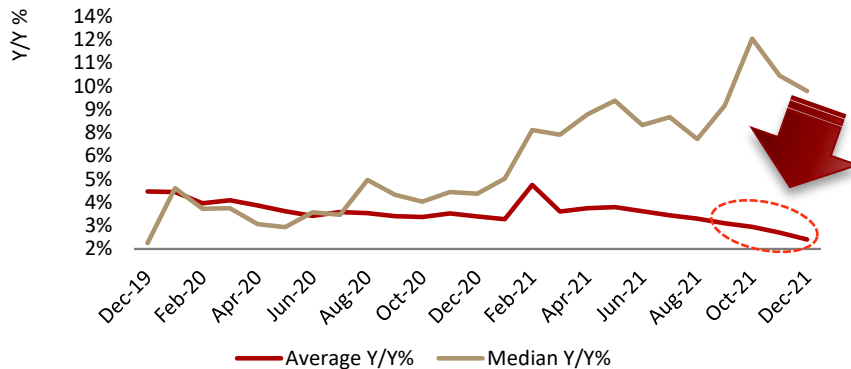


Source: Silk Road Research, CREIS

Tier 1 average home price growth ticked down in Dec;
Tier 1 cities average home prices remained relatively stable

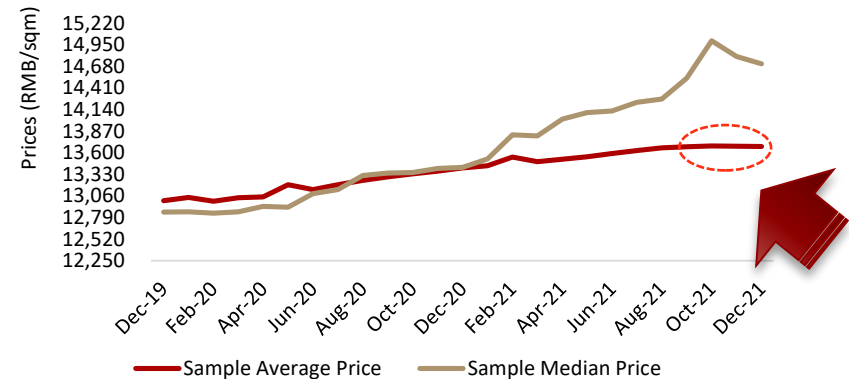
Property Market - Residential

Home Prices - Tier 2 Cities



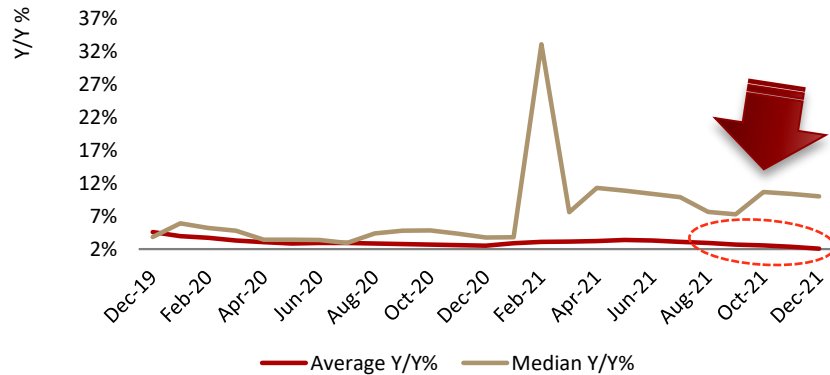
Source: Silk Road Research, National Bureau of Statistics of China, China Index Academy

Home Prices - Tier 2 Cities (Average vs. Median)



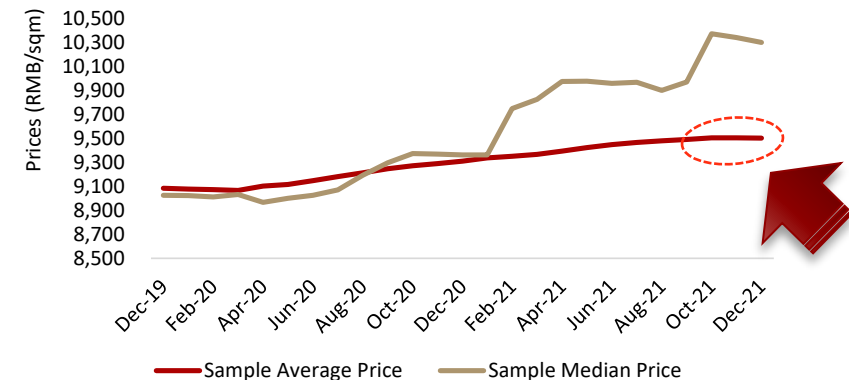
Source: Silk Road Research, CREIS
Note: The chart includes data from 36 tier 2

Home Prices - Tier 3 Cities



Source: Silk Road Research, National Bureau of Statistics of China, China Index Academy

Home Prices - Tier 3 Cities (Average vs. Median)

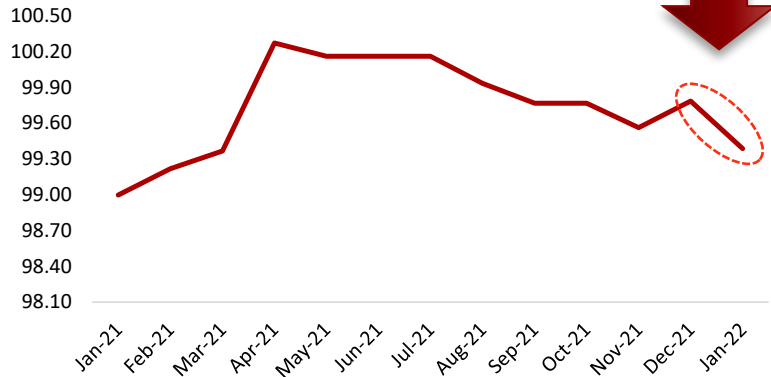


Source: Silk Road Research, CREIS
Note: The chart includes data from 60 tier 3

Average home prices remained flat across Tier 2/3 cities;
Home prices growth trended downwards in Tier 2/3 cities

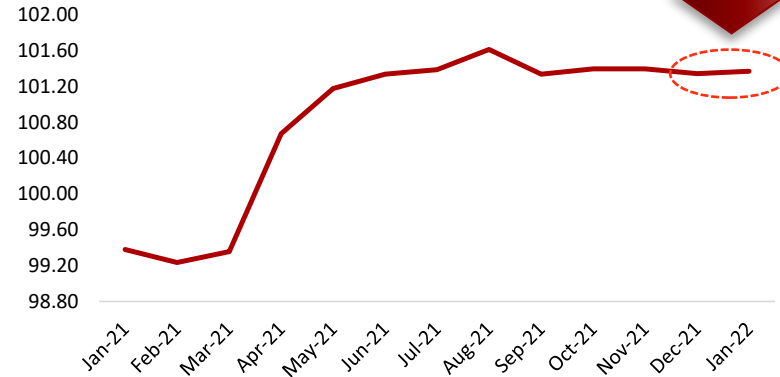
Property Market - Residential

SRR Proprietary Pricing Index - Tier 1 Composite



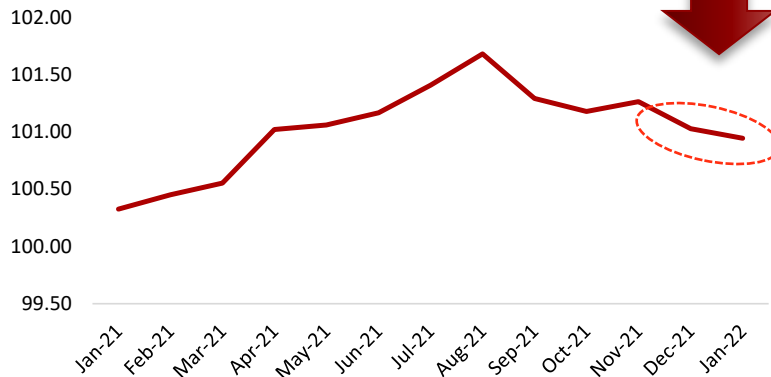
Source: Silk Road Research, Soufang

SRR Proprietary Pricing Index - Tier 2 Composite



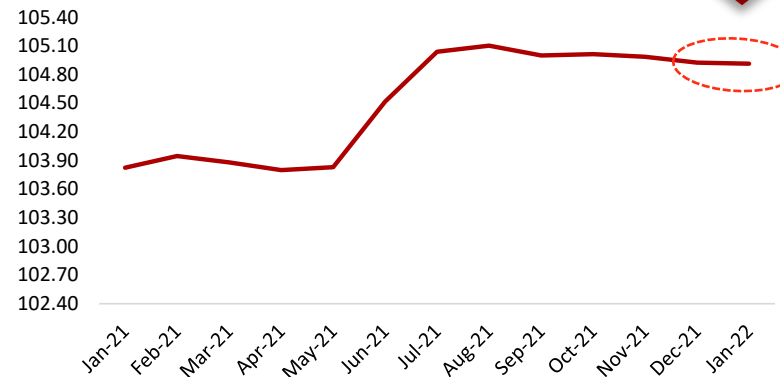
Source: Silk Road Research, Soufang

SRR Proprietary Pricing Index - Tier 3 Composite



Source: Silk Road Research, Soufang

SRR Proprietary Pricing Index - Tier 4 Composite

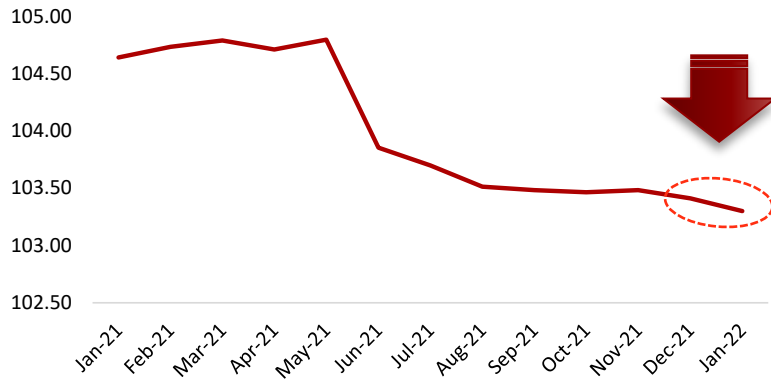


Source: Silk Road Research, Soufang

SRR Proprietary (same-store) Pricing Index ticked down across all tiers ex-Tier 2 cities

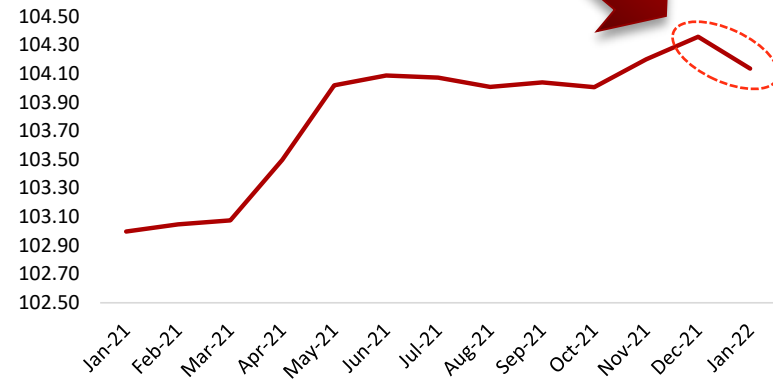
Property Market - Residential

SRR Proprietary Pricing Index - Tier 5 Composite



Source: Silk Road Research, Soufang

SRR Proprietary Pricing Index - Tier 6 Composite

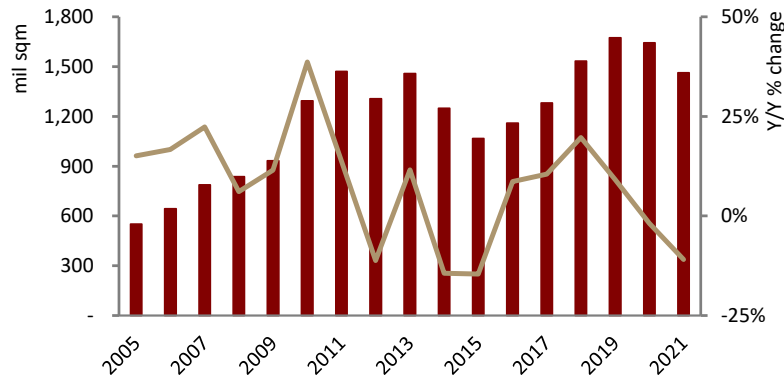


Source: Silk Road Research, Soufang

SRR Proprietary (same-store) Pricing Index ticked down across both Tier 5 and 6 cities

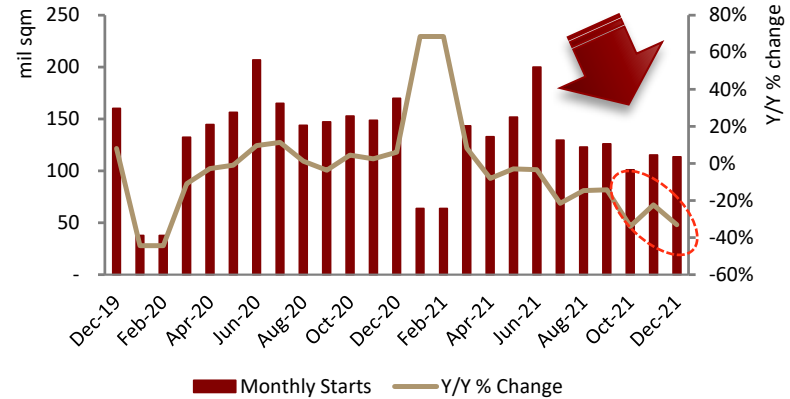
Property Market - Residential

Residential Property - National Annual Starts



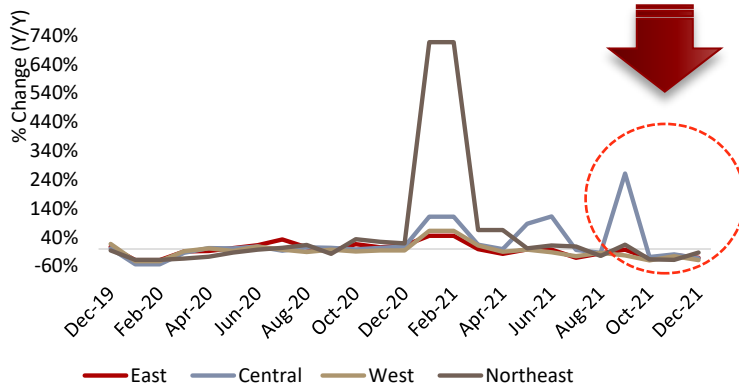
Source: Silk Road Research, CREIS

China Residential Starts - Monthly (National)



Source: Silk Road Research, CREIS

Residential Property - Monthly Starts



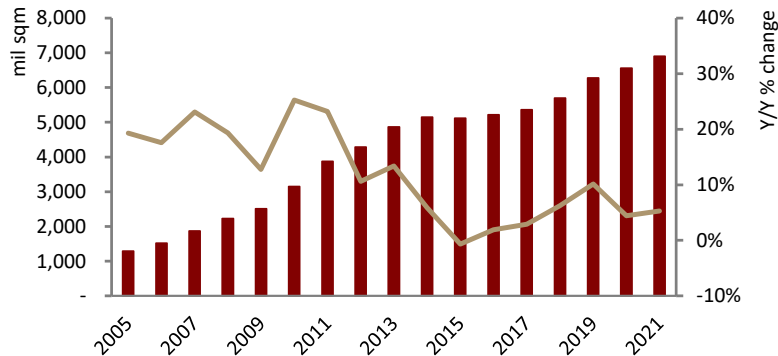
Source: Silk Road Research, CREIS

Note: Feb 2021 not fully shown to avoid distorting the chart

Residential starts growth deteriorated to -33.1% y/y in Dec vs. -22.4% in Nov;
Starts growth deteriorated across all regions ex-North East

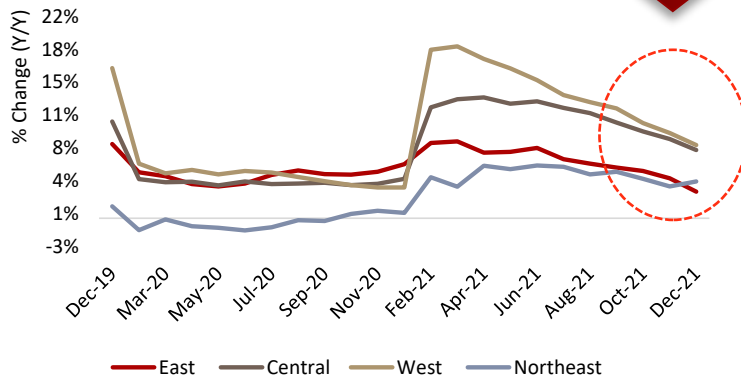
Property Market - Residential

Residential Property - National Annual Under Construction



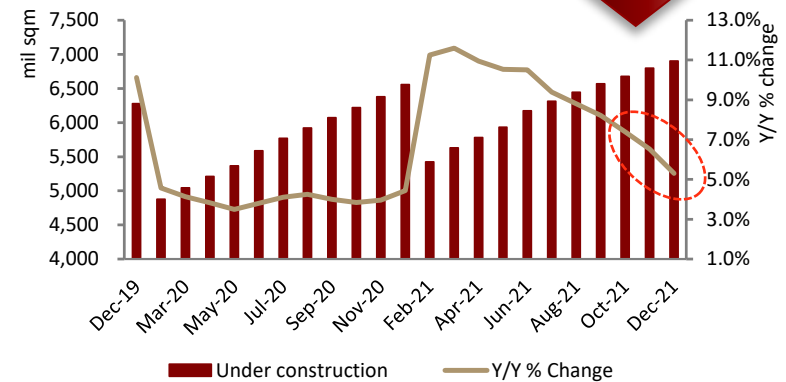
Source: Silk Road Research, CREIS

Residential Property - Monthly Under Construction



Source: Silk Road Research, CREIS

China Residential Under Construction - National (Floor Space)

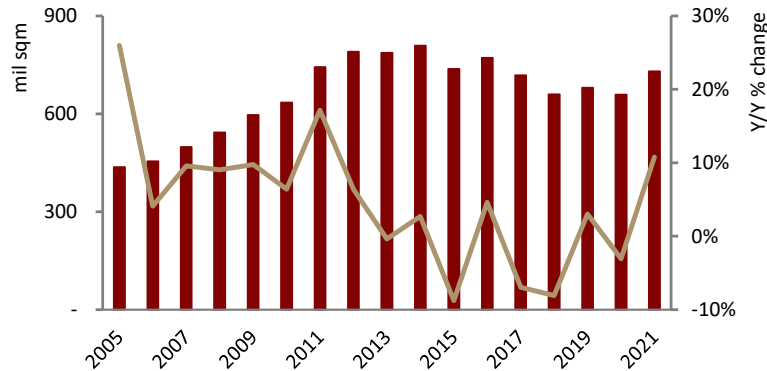


Source: Silk Road Research, CREIS

Under-construction growth moderated to +5.3% y/y in Dec vs. +6.5% in Nov;
Under-construction growth moderated across all regions ex-North East

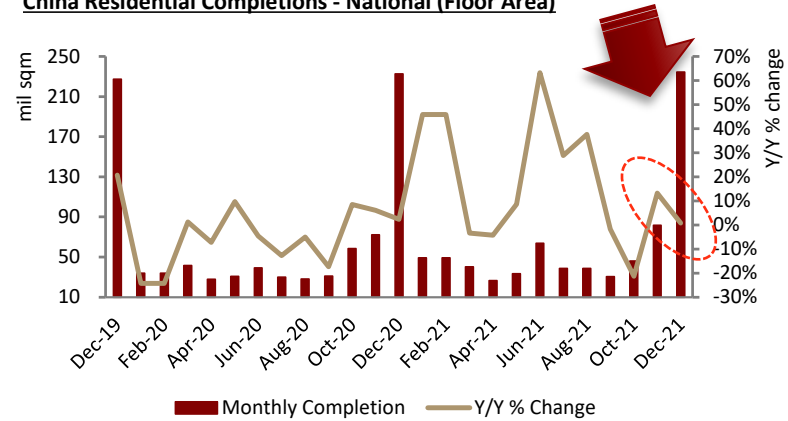
Property Market - Residential

Residential Property - National Annual Completions



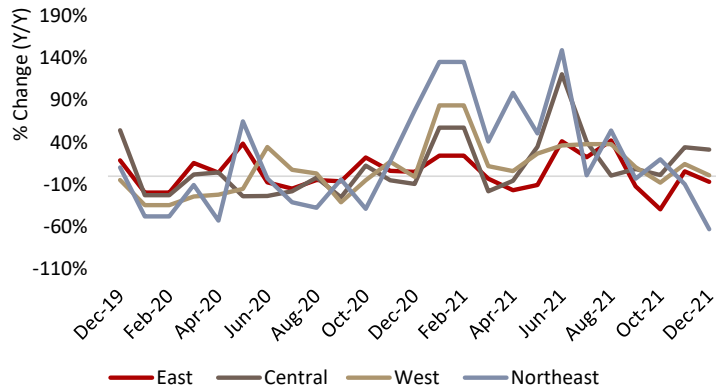
Source: Silk Road Research, CREIS

China Residential Completions - National (Floor Area)



Source: Silk Road Research, CREIS

Residential Property - Monthly Completion



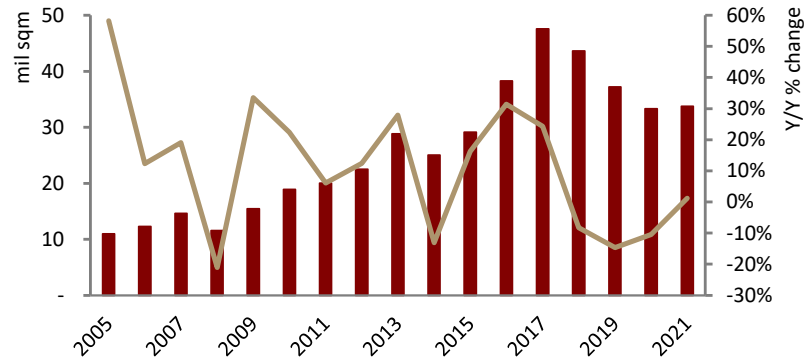
Source: Silk Road Research, CREIS

Residential completions growth fell to +0.8% y/y in Dec vs. +13.2% in Nov;
Completions growth fell across all regions

PROPERTY MARKET - OFFICE

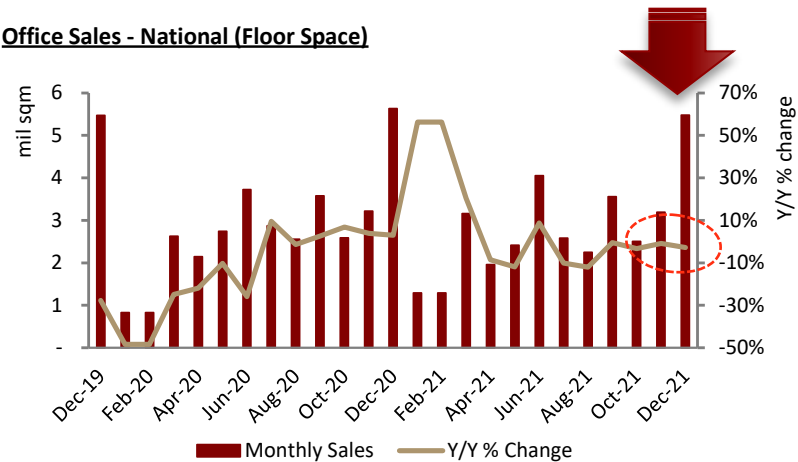
Property Market - Office

Annual Office Sales - National (Floor Space)



Source: Silk Road Research, CREIS

Office Sales - National (Floor Space)

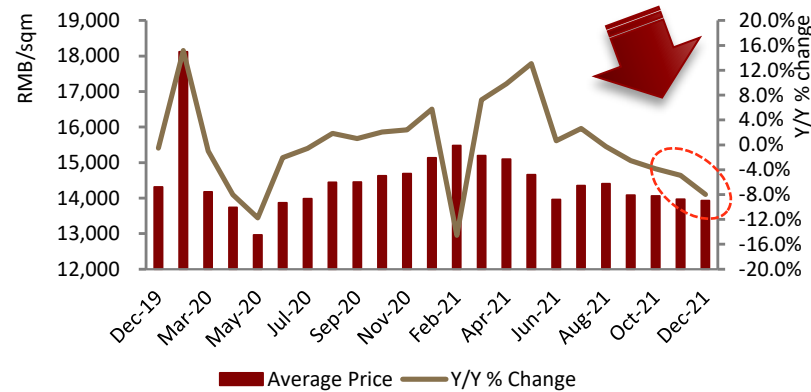


Source: Silk Road Research, CREIS

Office sales growth decline accelerated to -2.7% y/y in Dec vs. -0.8% in Nov

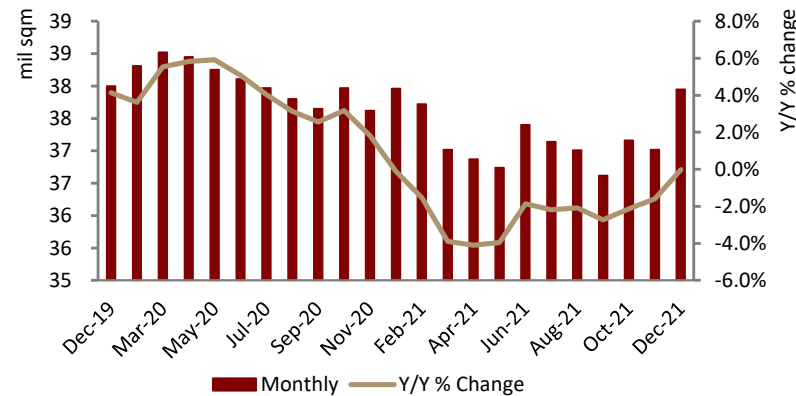
Property Market - Office

Office Buildings - National Average



Source: Silk Road Research, CREIS

Office Inventory - National (Floor Space)

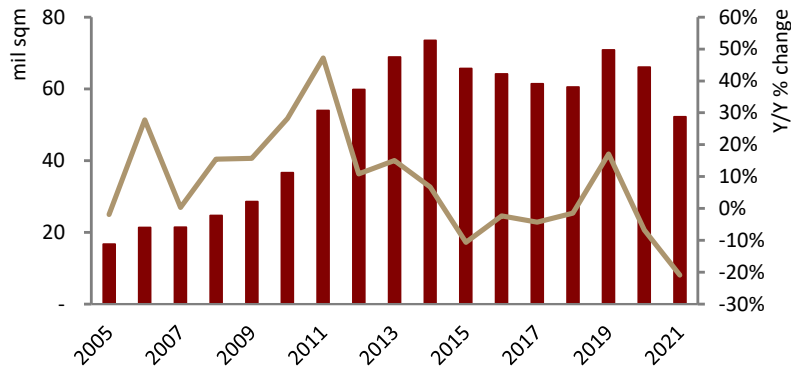


Source: Silk Road Research, CREIS

Office price growth deteriorated to -8.0% y/y in Dec vs. -4.9% in Nov

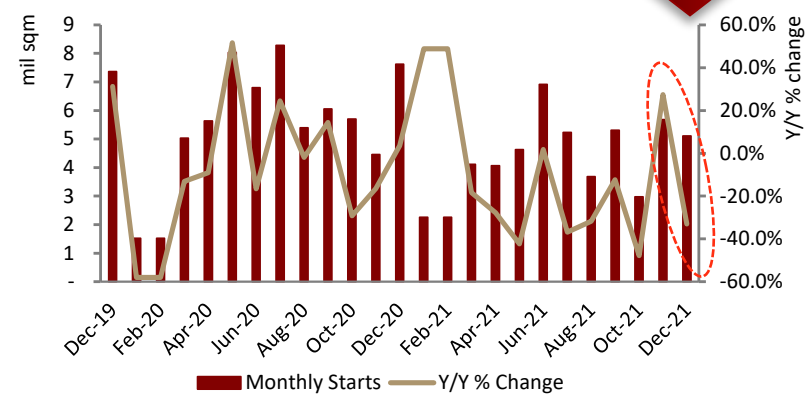
Property Market - Office

Office - National Annual Starts



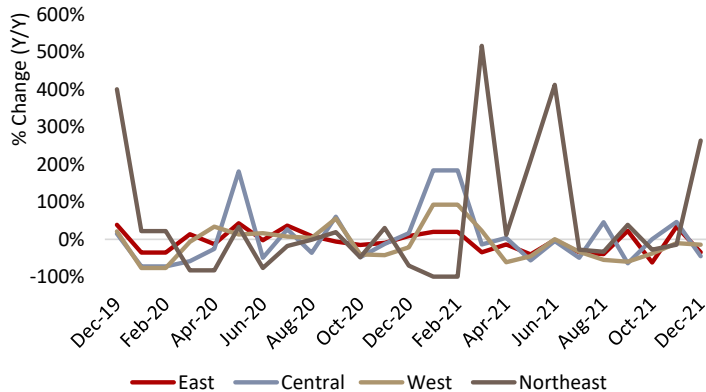
Source: Silk Road Research, CREIS.

Office - National Monthly Starts



Source: Silk Road Research, CREIS

Office - Monthly Starts

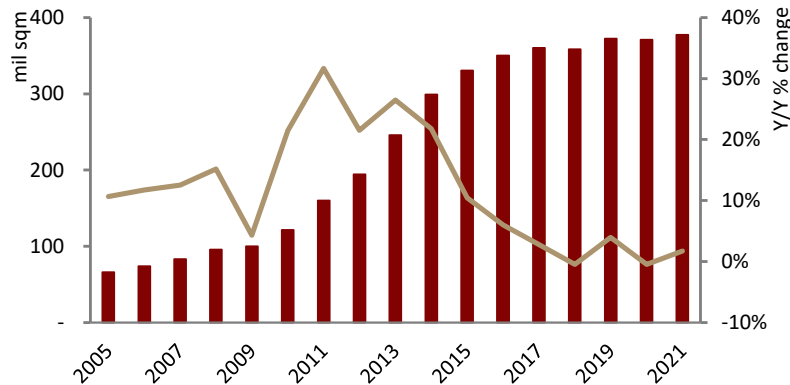


Source: Silk Road Research, CREIS

Office starts growth turned negative to -33.0% y/y in Dec vs. +27.4% in Nov;
Starts growth fell across all regions ex-North East

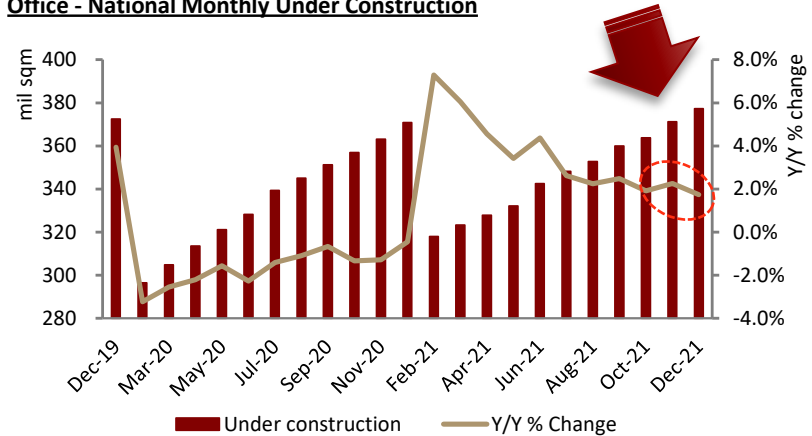
Property Market - Office

Office - National Annual Under Construction



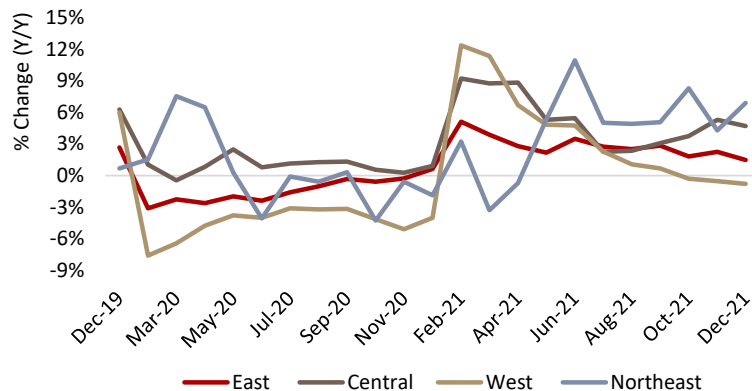
Source: Silk Road Research, CREIS

Office - National Monthly Under Construction



Source: Silk Road Research, CREIS

Office - Monthly Under Construction

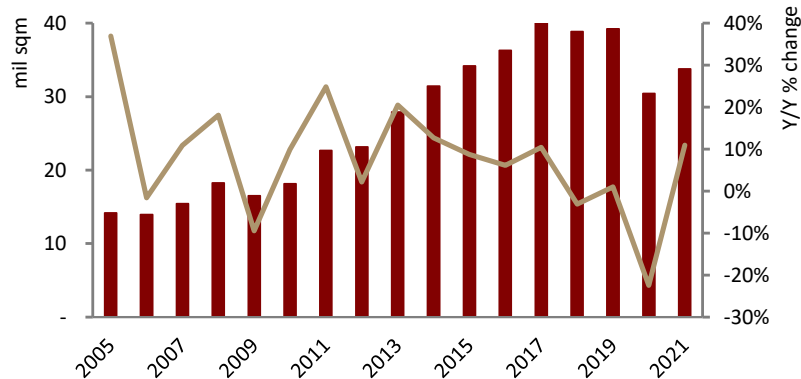


Source: Silk Road Research, CREIS

Under-construction growth ticked down to +1.7% y/y in Dec vs. +2.3% in Nov;
Under-construction growth ticked down across all regions ex-North East regions

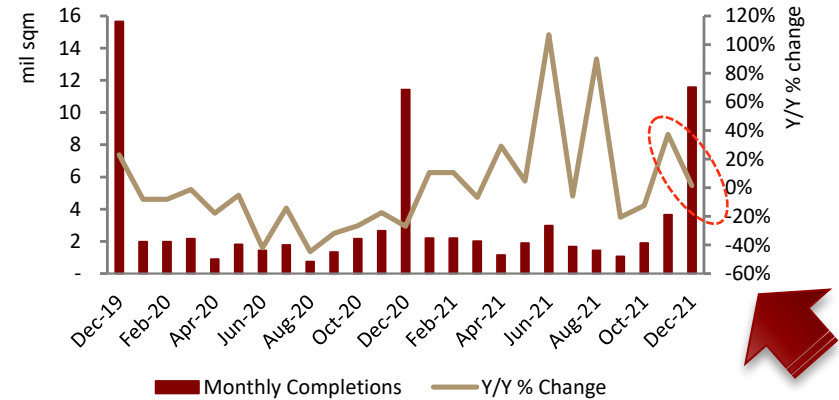
Property Market - Office

Office - National Annual Completions



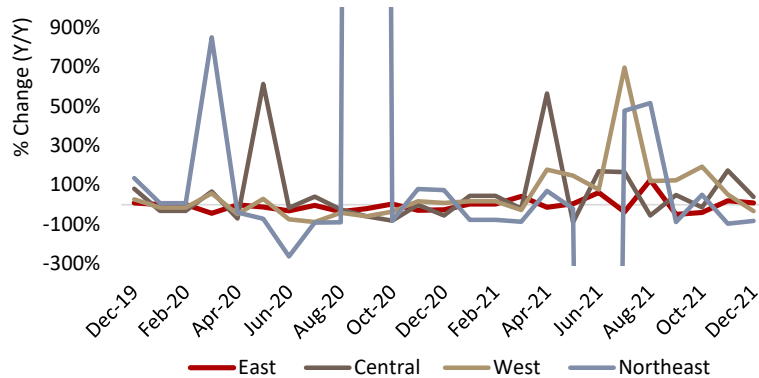
Source: Silk Road Research, CREIS

Office - National Monthly Completions



Source: Silk Road Research, CREIS

Office - Monthly Completion



Source: Silk Road Research, CREIS

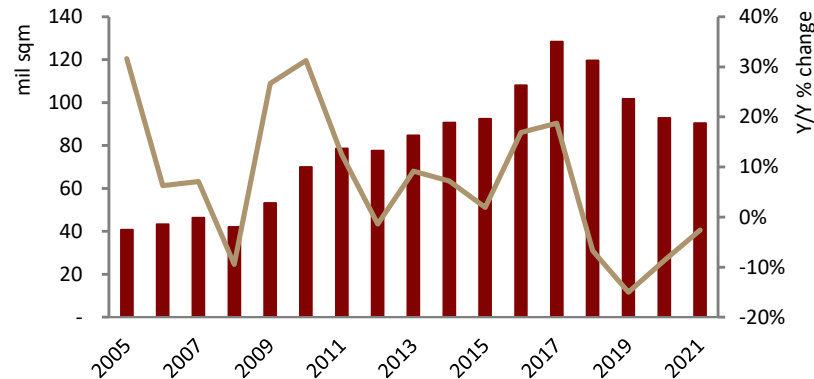
Note: 2020 September and 2021 Jun is not fully shown to avoid distorting the chart.

Completions growth plunged to +1.3% y/y in Dec vs. +37.2% in Nov;
Completions growth fell across all regions ex-North East region

PROPERTY MARKET - COMMERCIAL

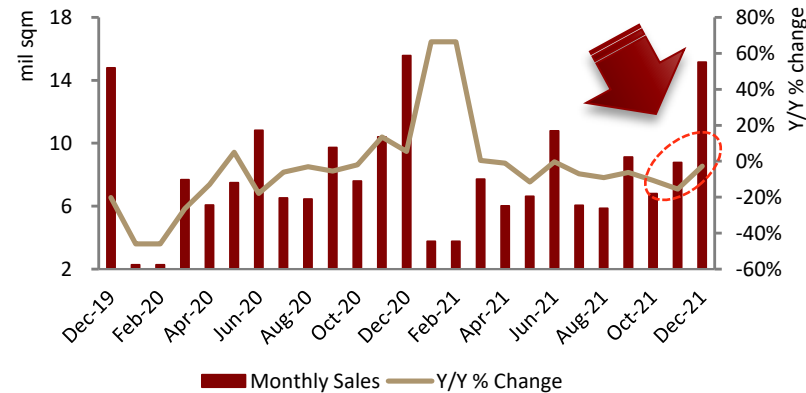
Property Market - Commercial

Annual Commercial Business Sales - National (Floor Space)



Source: Silk Road Research, CREIS

Commercial Business Sales - National (Floor Space)

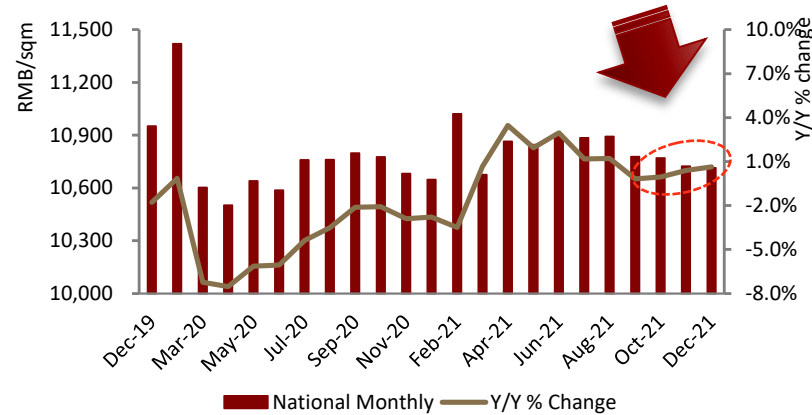


Source: Silk Road Research, CREIS

Commercial sales growth remained negative at -2.7% y/y in Dec vs. -15.6% in Nov

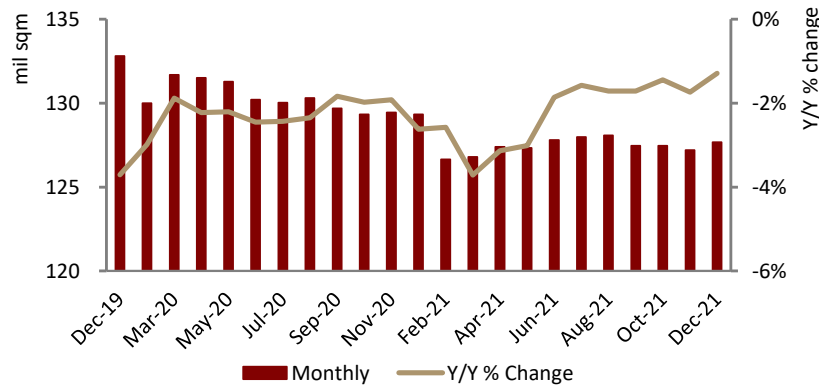
Property Market - Commercial

Commercial Business - National Average



Source: Silk Road Research, CREIS

Commercial Business Inventory - National (Floor Space)

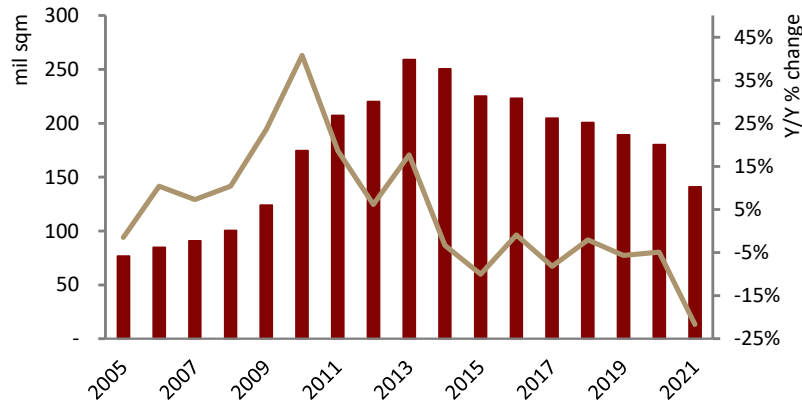


Source: Silk Road Research, CREIS

Commercial price growth remained stable at +0.6% y/y in Dec vs. +0.4% in Nov

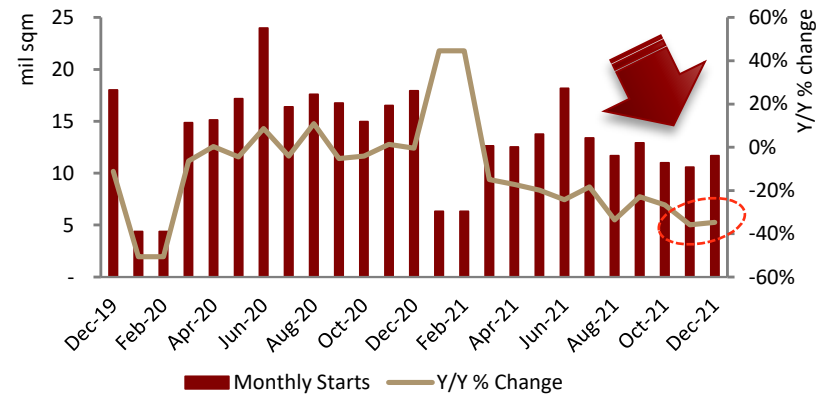
Property Market - Commercial

Commercial Business - National Annual Starts



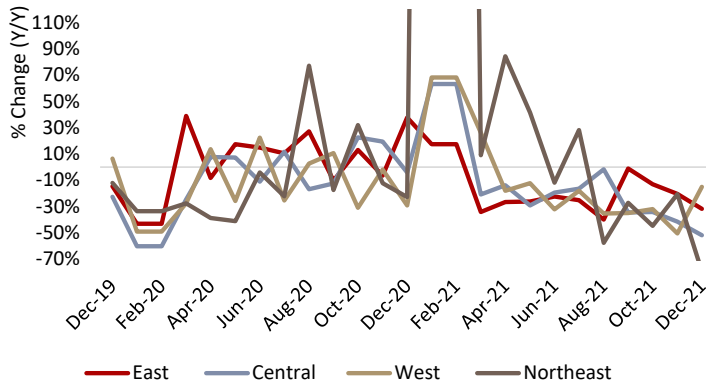
Source: Silk Road Research, CREIS.

Commercial Business - National Monthly Starts



Source: Silk Road Research, CREIS

Commercial Business - Monthly Starts



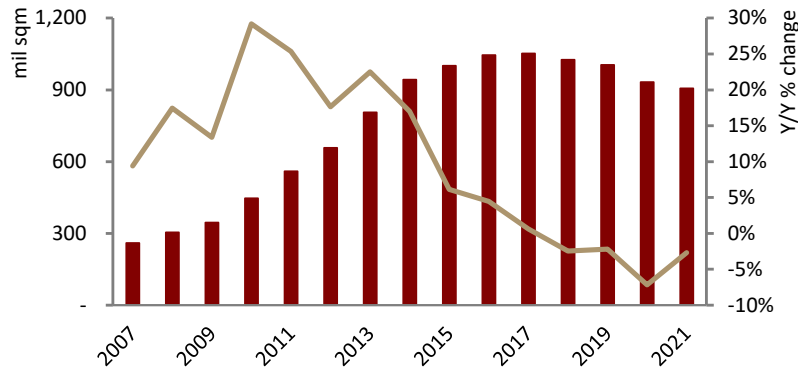
Source: Silk Road Research, CREIS

Note: Feb 2021, Sep 2021 and Nov 2021 not fully shown to avoid distorting the chart

Commercial starts growth remained negative at -34.8% y/y in Dec vs. -35.9% in Nov;
Starts growth deteriorated across all regions ex-West region

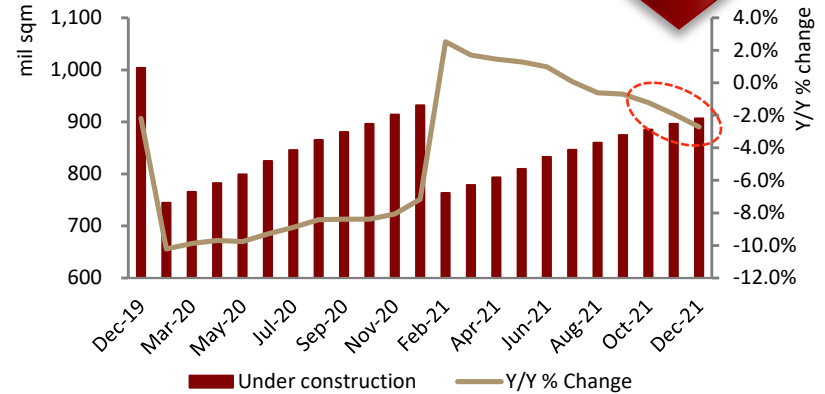
Property Market - Commercial

Commercial Business - National Annual Under Construction



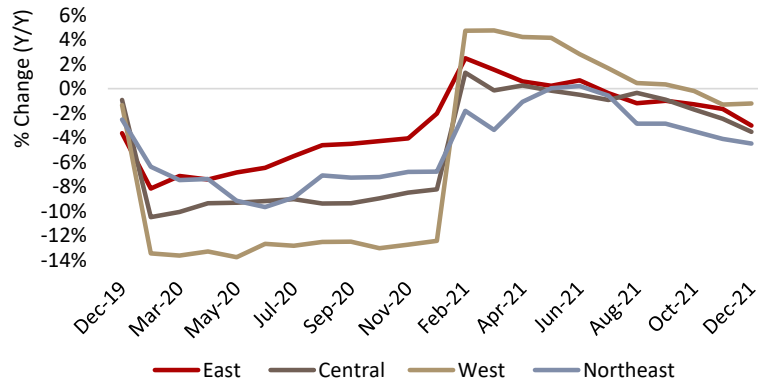
Source: Silk Road Research, CREIS

Commercial Business - National Monthly Under Construction



Source: Silk Road Research, CREIS

Commercial Business - Monthly Under Construction

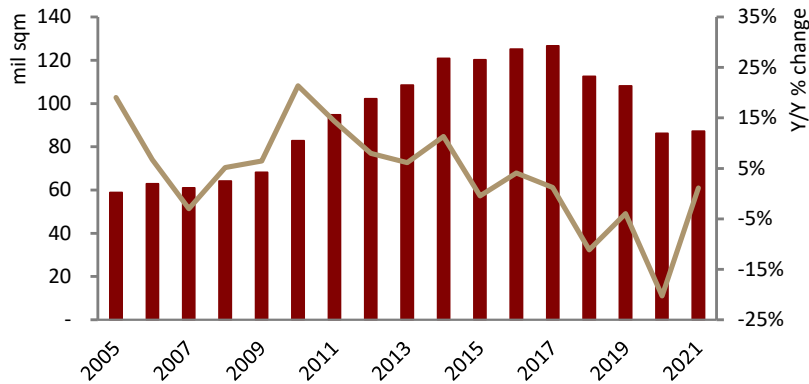


Source: Silk Road Research, CREIS

Under-construction growth deteriorated to -2.7% y/y in Dec vs. -1.9% in Nov;
Under-construction growth fell across all regions

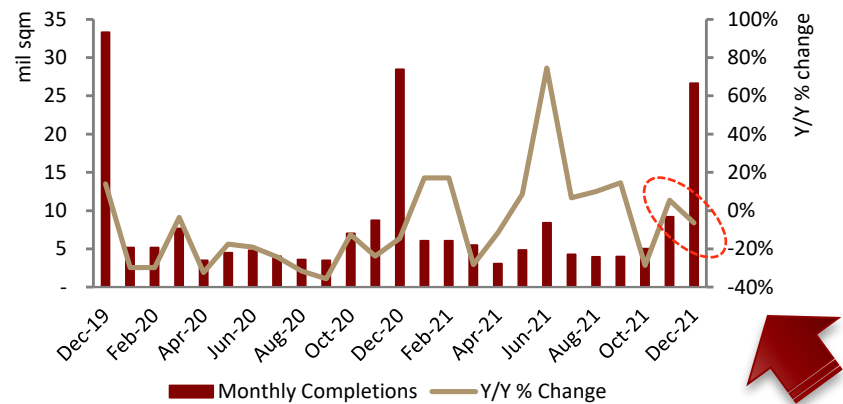
Property Market - Commercial

Commercial Business - National Annual Completions



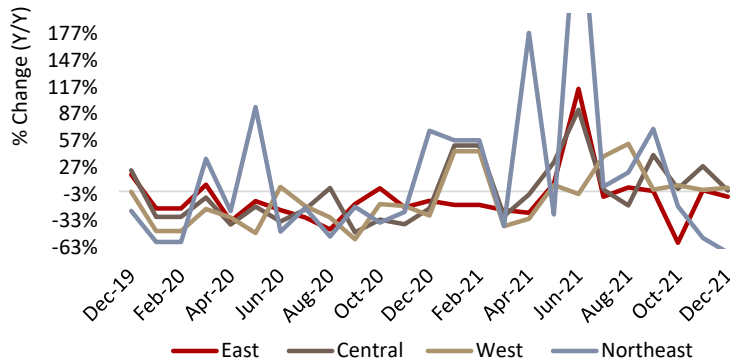
Source: Silk Road Research, CREIS

Commercial Business - National Monthly Completions



Source: Silk Road Research, CREIS

Commercial Business - Monthly Completion



Source: Silk Road Research, CREIS

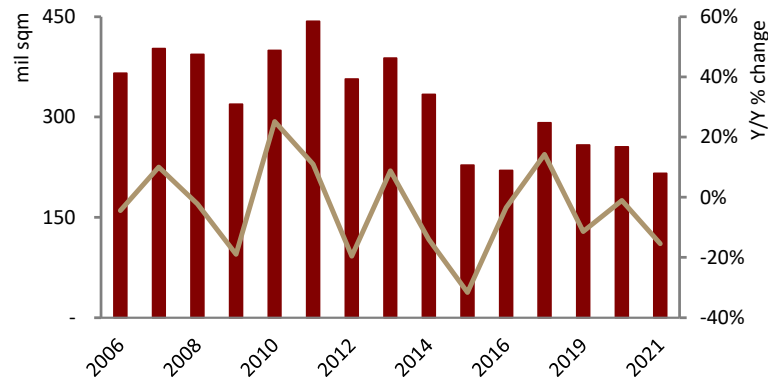
Note: 2021 June is not fully shown to avoid distorting the chart.

Commercial completions growth turned negative to -6.4% y/y in Dec vs. +5.4% in Nov;
Under-construction growth ticked down across all regions ex-West region

LAND SALES

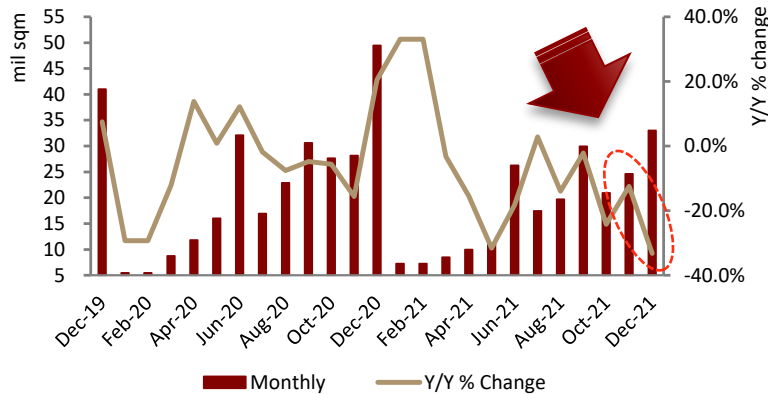
Land Sales

Land Sales - National Annual



Source: Silk Road Research, Wind

Land Sales - National Monthly



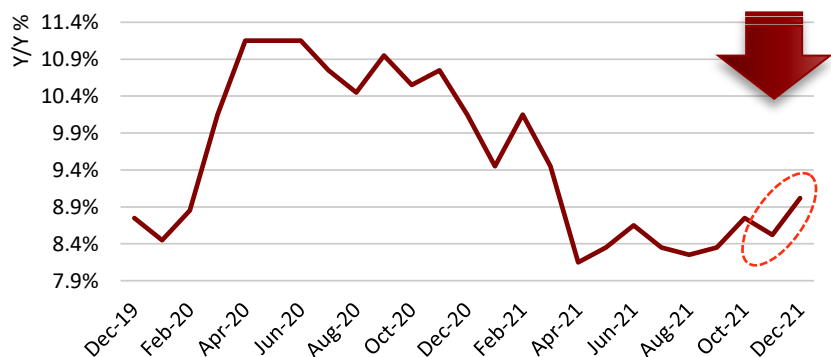
Source: Silk Road Research, Wind

Land sales growth fell to -33.2% y/y in Dec vs. -12.5% in Nov

FINANCING AND CREDIT INDICATORS

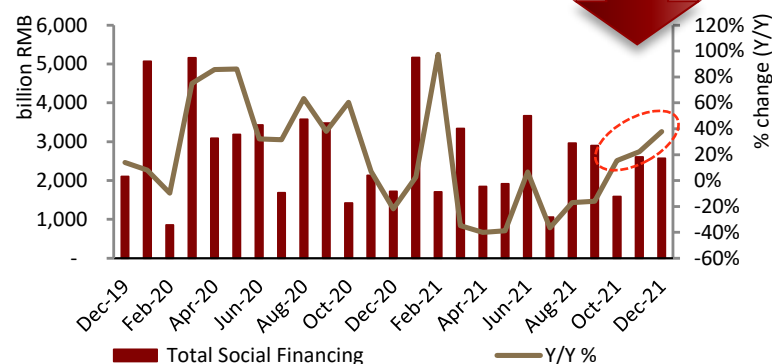
Financing and Credit Indicators

M2 Supply



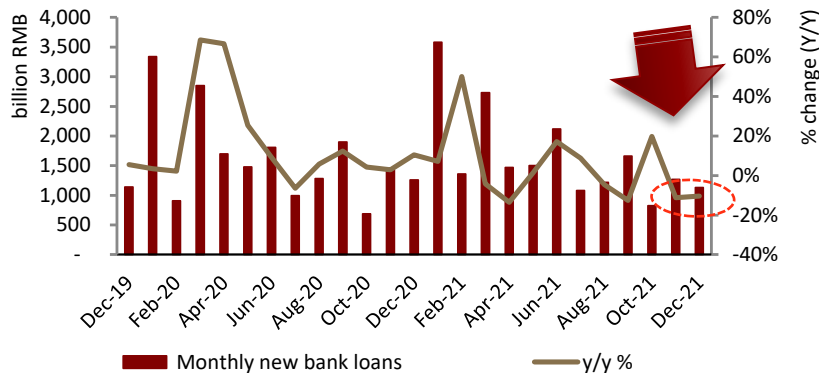
Source: Silk Road Research, Eastmoney.com, Sina Finance

Total Social Financing



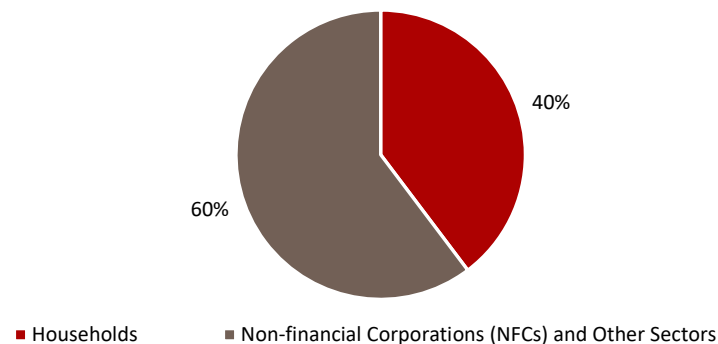
Source: Silk Road Research, Xinhua, Qianzhan

New Yuan Loans



Source: Silk Road Research, Xinhua, Eastmoney

New Yuan Loans Breakdown by Category (2021)

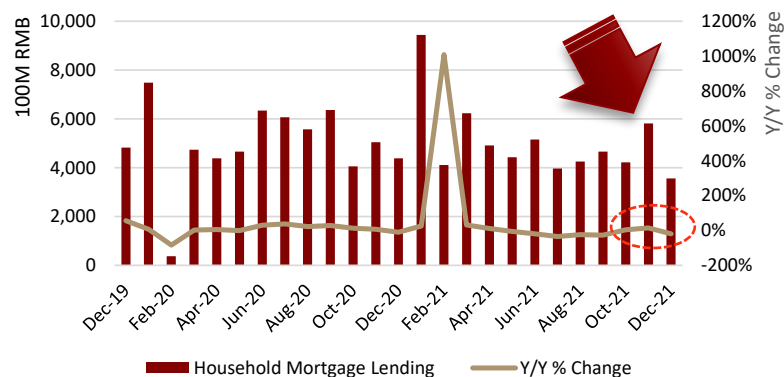


Source: Silk Road Research, The People's Bank of China (PBOC)

TSF growth accelerated; M2 growth ticked up;
New yuan loans growth remained negative at -10.3% y/y in Dec vs. -11.2% in Nov

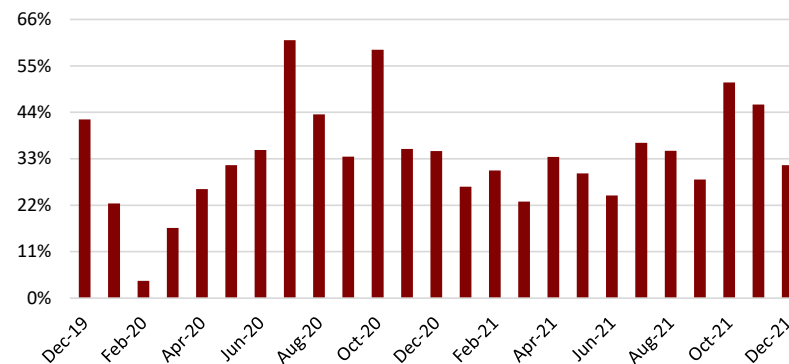
Financing and Credit Indicators

New Yuan Loans - Household Mortgage Component



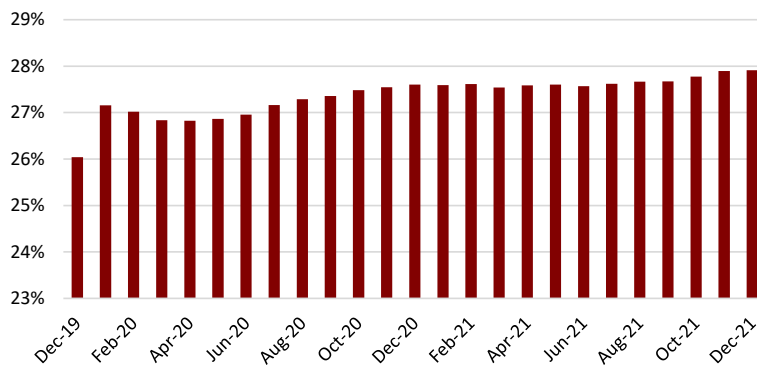
Source: Silk Road Research, The People's Bank of China (PBOC)

Household Mortgage Lending as % of Total New Yuan Loans



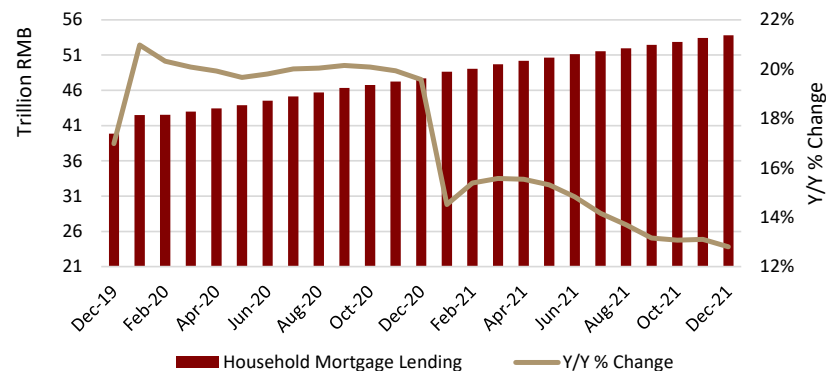
Source: Silk Road Research, The People's Bank of China (PBOC)

Household Mortgage Lending as % of Total Yuan Loans



Source: Silk Road Research, The People's Bank of China (PBOC)

Total Yuan Loans - Household Mortgage Component

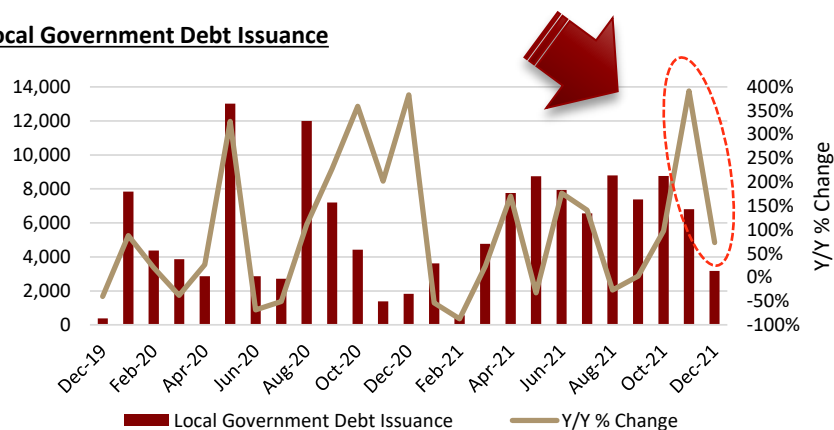


Source: Silk Road Research, The People's Bank of China (PBOC)

Mortgage loan growth turned negative to -19.0% y/y in Dec vs +15.3% in Nov

Financing and Credit Indicators

Local Government Debt Issuance



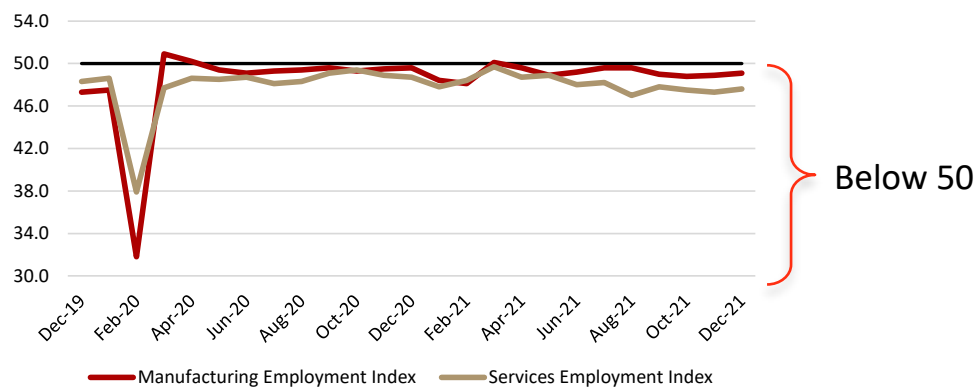
Source: Silk Road Research, The People's Bank of China (PBOC)

Local government debt issuance growth moderated to +73.1% y/y in Dec vs. +391.7% in Nov

EMPLOYMENT AND INCOME INDICATORS

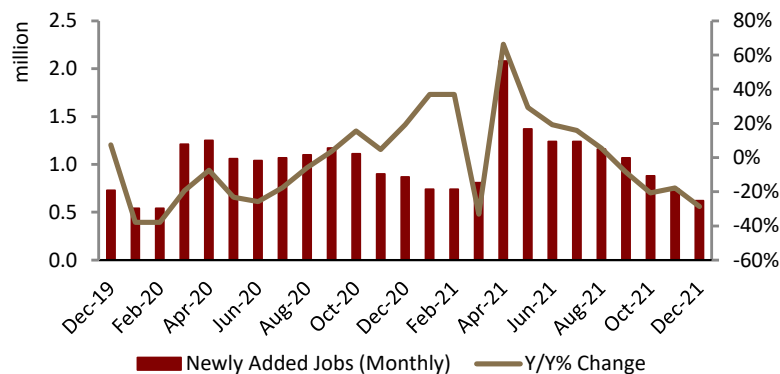
Employment and Income Indicators

Official Manufacturing & Services Employment PMI



Source: Silk Road Research, National Bureau of Statistics of China

Newly Added Jobs

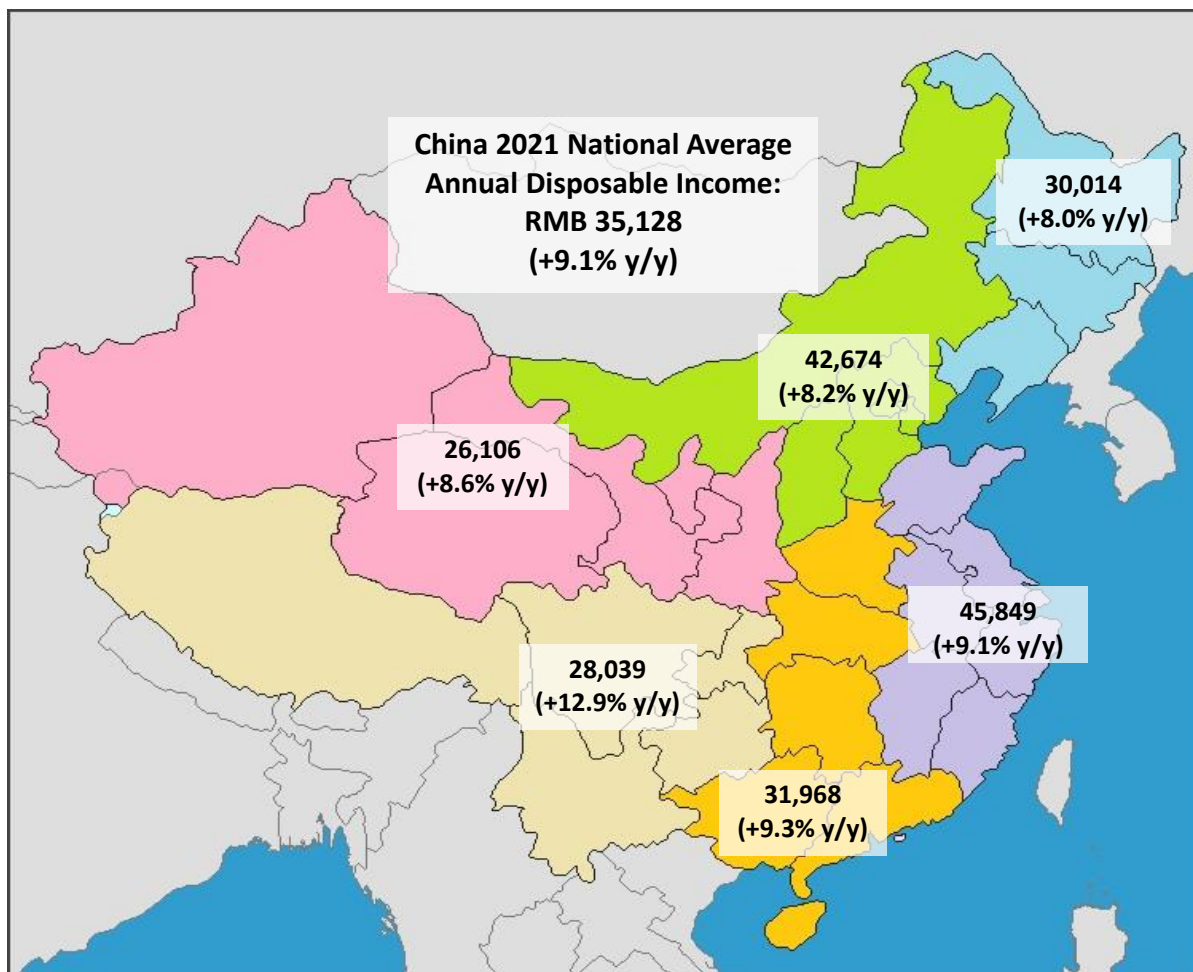


Source: Silk Road Research, Ministry of Human Resources and Social Security

Employment PMIs remained below 50 in Dec;

Newly added jobs growth decline accelerated to -28.7% y/y in Dec vs. -17.8% in Nov

Employment and Income Indicators



Source: Silk Road Research, Local municipalities official reports

2021 income growth +9.1% y/y;
Eastern region roughly 1.8x average income of Western regions;
Fastest income growth in South West region

DISCLAIMER: Silk Road Research Pte. Ltd.'s market analysis reports and website are provided as general and impersonalized business and financial information and commentary, and have been prepared without regard to the financial circumstances or objectives of any particular person. This report has been prepared by Silk Road Research Pte. Ltd. mainly for distribution to market professionals and institutional investors. This content does not constitute investment advisory services or a recommendation, offer or solicitation to purchase, sell or otherwise trade in relation to any particular security. We are not responsible for the consequences of any trading conducted in reliance on any of our content. Silk Road Research Pte. Ltd. recommends that investors independently evaluate particular investments and strategies, and encourages investors to seek the advice of a financial adviser. The appropriateness of an investment or strategy will depend on an investor's circumstances and objectives.

The information herein is not intended to be a complete analysis of every material fact in respect to any company, industry or subject discussed, nor by itself sufficient upon which to base an investment decision. Silk Road Research Pte. Ltd. uses a set of colors to represent its view: Green denotes positive, Beige denotes neutral, and Red denotes negative. These colors are not a recommendation to buy, sell or hold a security.

Nothing contained in this report or on our website constitutes investment advice and the information and opinions contained in this report or on our website is to be used solely for informational purposes, and should not be regarded as an offer, or a solicitation of an offer to buy or sell a security, financial instrument or service.

Silk Road Research Pte. Ltd. believes the information contained in our market analysis and website has been obtained from sources we believe to be reliable but makes no representation that it is complete or accurate. Anecdotes or survey responses represent the view of a specific industry contact(s) and do not necessarily represent the overall market and do not reflect the opinion of Silk Road Research Pte. Ltd. unless specified. We make no warranties or representations regarding the accuracy, completeness, usefulness or timeliness of such information or of any of our opinions or other content, and such information is valid only as of the date of issuance, and we assume no responsibility to anyone relying on such information, opinions or other content for their particular purposes. Such information, opinions and other content are subject to change without notice and we assume no responsibility to update or amend them.

Silk Road Research Pte. Ltd. offers independently prepared Market Analysis and conducts general business surveys from a wide variety of sources. We publish the results of these surveys, as well as collect and offer market commentary to our clients. We compile and summarize daily news from diverse resources. We do not offer securities execution services in public markets or conduct investment-banking activities. We do not offer private funds or manage pooled investment vehicles.

This information is solely for the intended recipient, and may not be copied, disseminated or forwarded to anyone without prior consent.

ANALYST CERTIFICATION: Each Silk Road Research analyst whose name appears on a report hereby certifies that (i) the recommendations and opinions expressed in the said report accurately reflect the analyst's personal views about any and all of the securities or issuers discussed herein that are within such analyst's coverage universe and (ii) no part of the analyst's compensation was, is, or will be, directly or indirectly, related to the specific recommendations or views express by the analyst in this report. Silk Road Research and its analysts (or household members) are not permitted to have a financial interest in or receive compensation from covered companies.

This report, and the contents contained herein is independent from, and has no ties to, any broker-dealer or issuer.