

The background of the slide is a dark blue-tinted image showing several stacks of currency. On the left, there are stacks of US dollar bills, including a \$100 bill and a \$20 bill. On the right, there are stacks of Iranian Rial banknotes, including a 10,000 Rial note and a 50,000 Rial note. The text 'Bourse & Bazaar' is in the top right corner, and 'بورس و بازار' is below it. The main title 'The Ins and Outs of Iranian Industrial Resiliency Under Sanctions' is in the center, and 'Marburg – December 14, 2019' is in the bottom right corner.

Bourse  
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# The Ins and Outs of Iranian Industrial Resiliency Under Sanctions

Marburg – December 14, 2019



# Research Question

1. Between 2008 and 2016 Iran faced only three years of economic contraction
2. Non-oil exports managed to grow in this period, contributing to economic resiliency
3. This paper examines the relationship between the availability of intermediate inputs to Iran's total industrial output.

# Literature Review

Drawing on data from 2006 to 2011, Haidar (2017) observes how a process of “export deflection” saw “(a proportion of) exporters are able to redirect (part of) their exports” away from sanctioning countries and “towards politically friendly destinations.”

“Two-thirds of the value of Iranian exports thought to be destroyed by export sanctions have actually been deflected to nonsanctioning countries.”

I posit a corollary to “export deflection” that can be called “import reflection.”

# Methodology

Period of 2001 to 2018 to capture Iran's industrialization and sanctions era.

UNCTAD annual export data for two primary (EU28 and China) and two secondary (UAE and Turkey) trade partners—total exports and SITC 7.

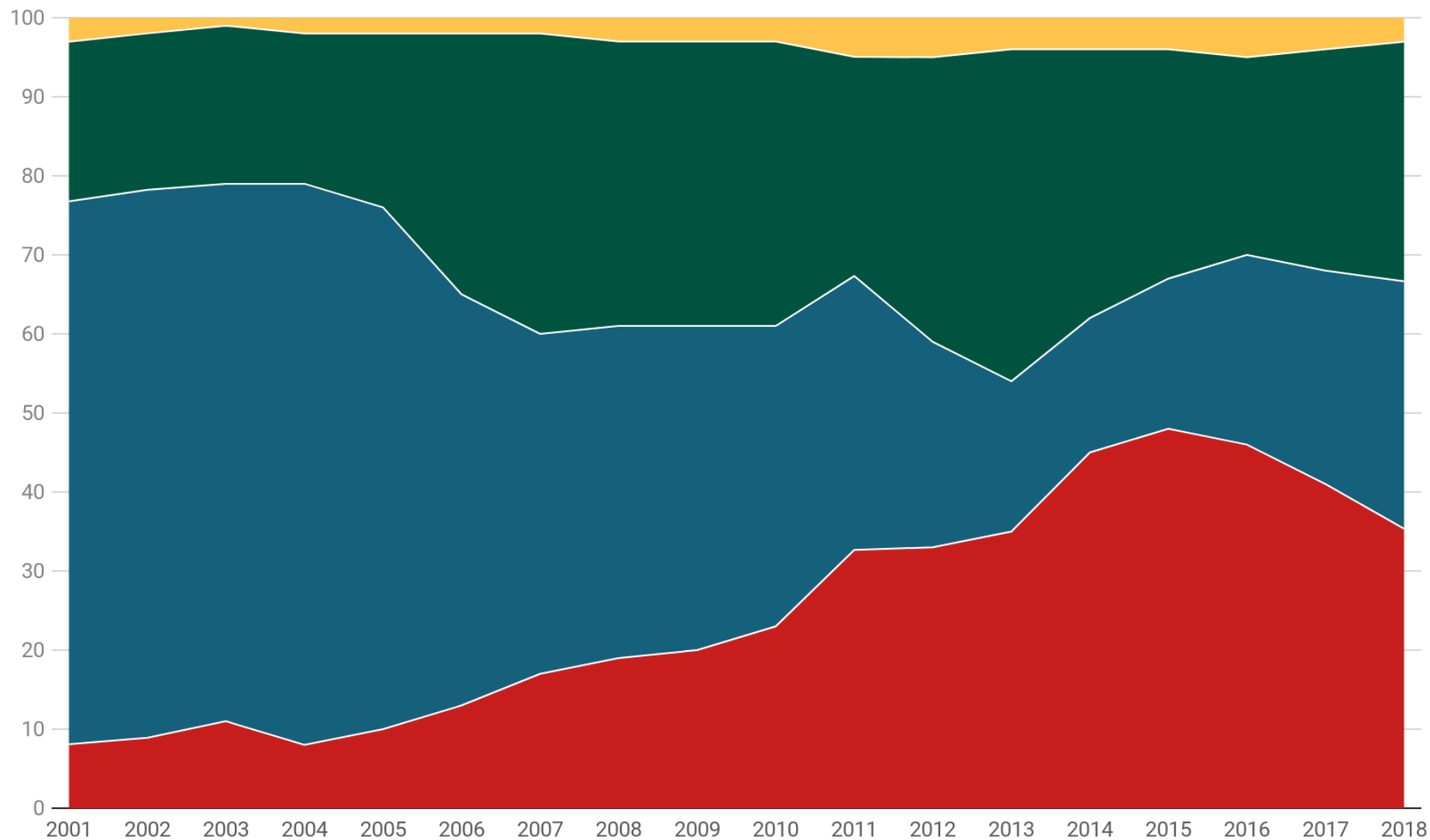
Industrial output reflected in Total Productivity Index (TPI) published by the Central Bank of Iran.

Relationships are tested by conducting Pearson correlation analyses for the total exports from each of the four trading partners and TPI.

# Share of Industrial Exports to Iran

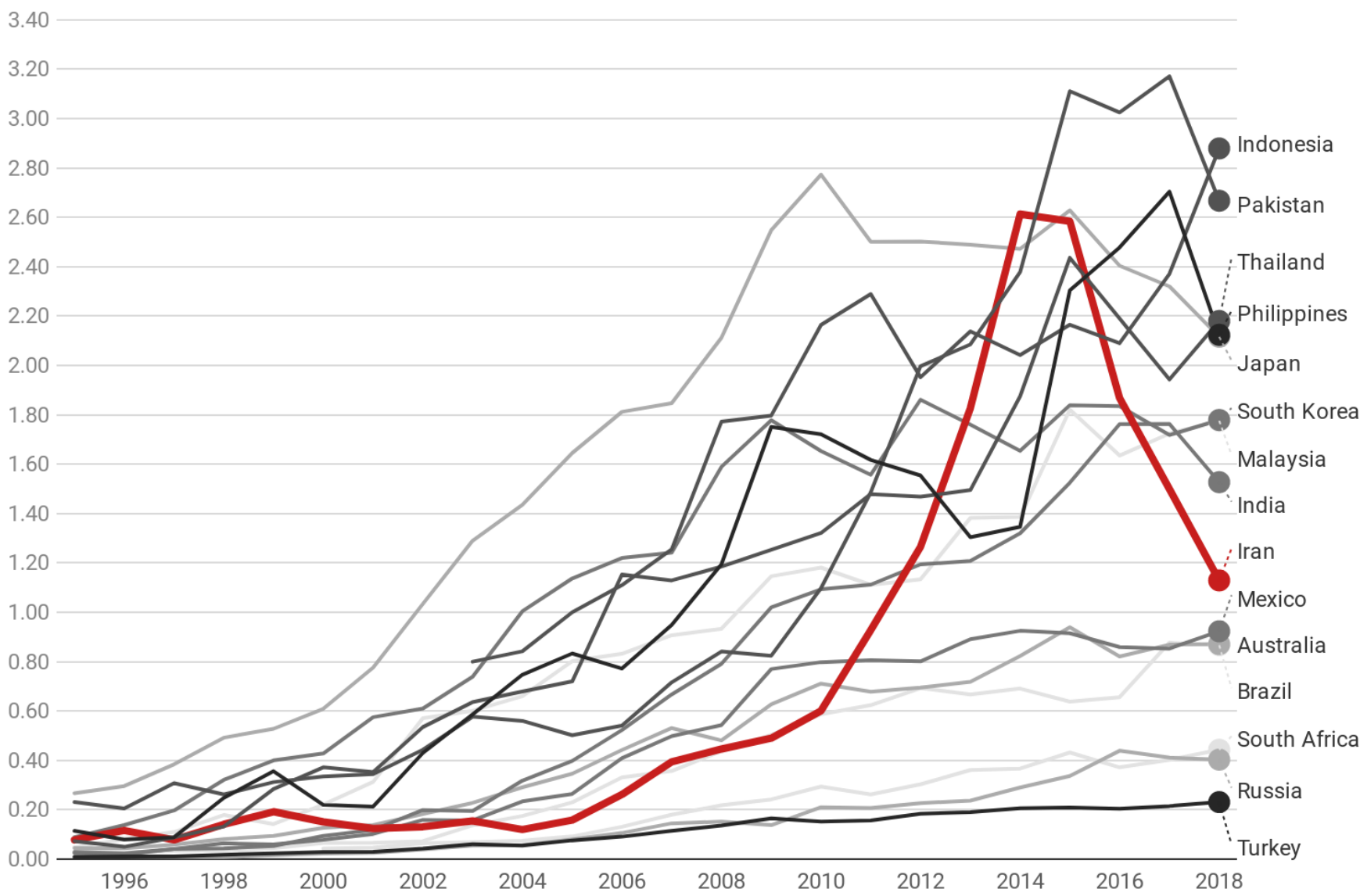
Proportion of major trade partner exports to total of four partners - SITC Section 7 in USD

China EU28 Turkey UAE



# China vs. EU28 Machinery and Transport Equipment Exports

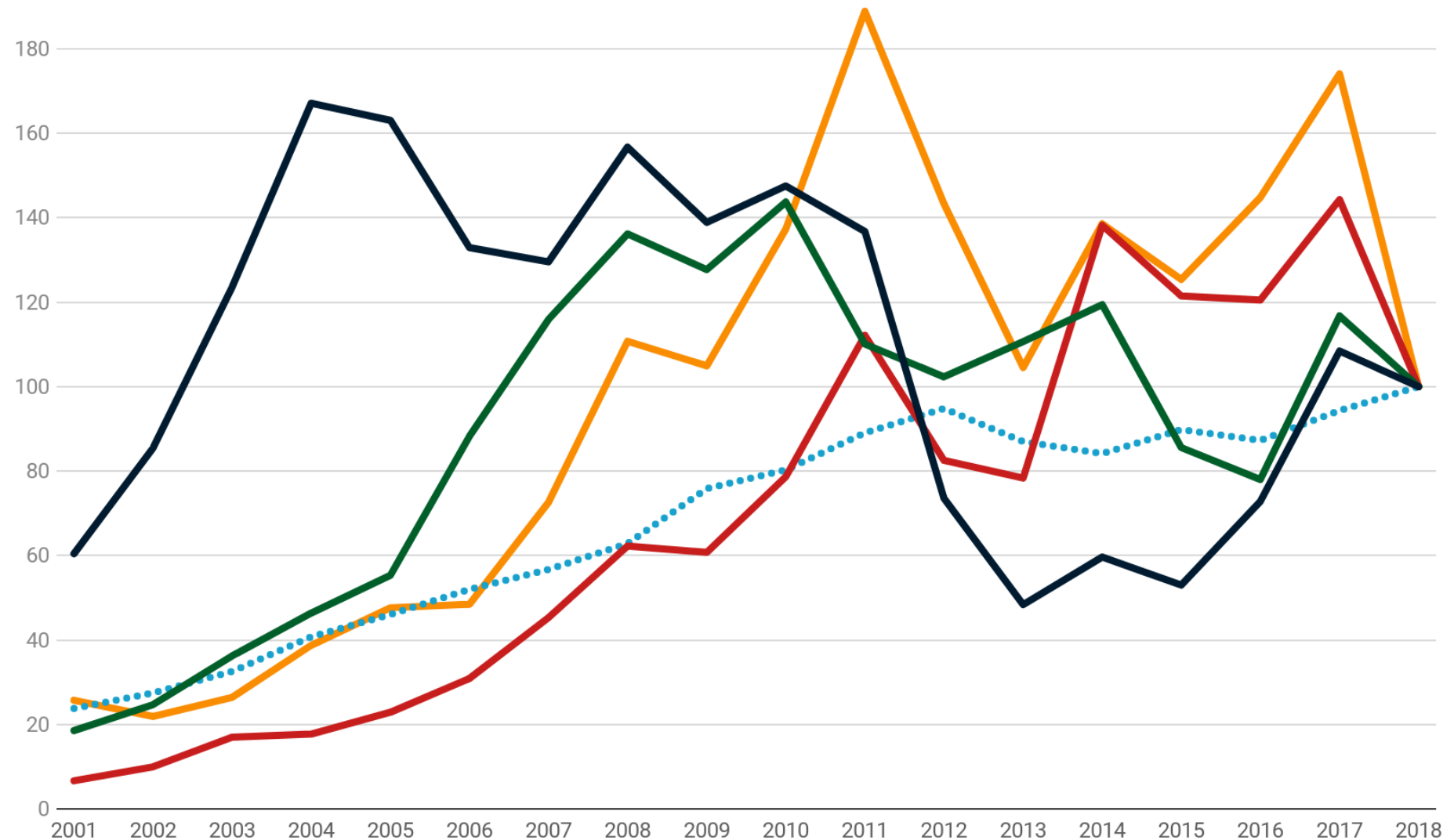
Ratio of total value of Chinese to EU28 SITC Code 7 exports in USD



# Iranian Industrial Inputs and Outputs Under Sanctions

Index figures based to 2018 - Export data for SITC Section 7

•• TPI • EU28 • China • Turkey • UAE





Statistically significant and strongly positive correlations are observed between Chinese, Emirati, and Turkish TOTAL and SITC7 exports to Iran—but not European exports.

**Table 1**

Combination	$r_p$	Lower	Upper	$p$
EU-IRI-TOTAL and TPI	-0.08	-0.53	0.40	.742
EU-IRI-SITC7 and TPI	-0.28	-0.66	0.22	.263
PRC-IRI-TOTAL and TPI	0.87	0.68	0.95	< .001
PRC-IRI-SITC7 and TPI	0.90	0.76	0.96	< .001
UAE-IRI-TOTAL and TPI	0.72	0.38	0.89	< .001
UAE-IRI-SITC7 and TPI	0.74	0.42	0.90	< .001
TUR-IRI-TOTAL and TPI	0.74	0.41	0.90	< .001
TUR-IRI-SITC7 and TPI	0.90	0.74	0.96	< .001

The confidence intervals were computed using  $\alpha = 0.05$ ;  $n = 18$



The correlation between European SITC7 exports and TPI is positive and statistically significant when the analysis is restricted to the years 2001 to 2008.

**Table 2**

Combination	$r_p$	Lower	Upper	$p$
(2001-2008) $n = 8$				
EU-IRI-TOTAL and TPI	0.87	0.43	0.98	.005
EU-IRI-SITC7 and TPI	0.71	0.01	0.94	.048
(2001-2012) $n = 12$				
EU-IRI-TOTAL and TPI	0.43	-0.20	0.80	.168
EU-IRI-SITC7-TPI	0.17	-0.44	0.68	.589
(2008-2018) $n = 11$				
EU-IRI-TOTAL and TPI	-0.58	-0.88	0.03	.062
EU-IRI-SITC7 and TPI	-0.54	-0.86	0.09	.088
(2012-2018) $n = 7$				
EU-IRI-TOTAL and TPI	0.62	-0.25	0.94	.140
EU-IRI-SITC7 and TPI	0.76	0.01	0.96	.050

The confidence intervals were computed using  $\alpha = 0.05$ ;  $n = 18$

Looking at shorter time periods before and after the imposition of sanctions, it is clear that Chinese exports to Iran are not impervious sanctions pressures.

**Table 3**

Combination	$r_p$	Lower	Upper	$p$
(2001-2008) $n = 8$				
PRC-IRI-TOTAL and TPI	0.95	0.73	0.99	< .001
PRC-IRI-SITC7 and TPI	0.94	0.69	0.99	< .001
(2001-2012) $n = 12$				
PRC-IRI-TOTAL and TPI	0.96	0.86	0.99	< .001
PRC-IRI-SITC7-TPI	0.95	0.84	0.99	< .001
(2008-2018) $n = 11$				
PRC-IRI-TOTAL and TPI	0.47	-0.18	0.83	.146
EU-IRI-SITC7 and TPI	0.55	-0.07	0.89	.077
(2012-2018) $n = 7$				
PRC-IRI-TOTAL and TPI	-0.58	-0.93	0.31	.177
PRC-IRI-SITC7 and TPI	-0.23	-0.84	0.63	.618

The confidence intervals were computed using  $\alpha = 0.05$ ;  $n = 18$

Exports of industrial parts and machinery from the European Union to the UAE and Turkey should be positively correlated to the exports of such goods from the UAE and Turkey to Iran.

**Table 4**

Combination	$r_p$	Lower	Upper	$p$
EU-UAE-SITC7 and UAE-IRI-SITC7	0.71	0.36	0.88	< .001
EU-TUR-SITC7 and TUR-IRI-SITC7	0.76	0.46	0.91	< .001

The confidence intervals were computed using  $\alpha = 0.05$ ;  $n = 18$

The relationship between TPI and TEI is positive for the period from 2001 to 2018 and there is a strong and statistically significant positive correlation between TPI and Iran's total non-oil exports to the world.

**Table 6**

Combination	$r_p$	Lower	Upper	$p$
(2001-2018) $n = 18$				
TPI and TEI	0.58	0.16	0.83	.011
TPI and IWI	0.77	0.48	0.91	< .001
(2008-2018) $n = 10$				
TPI and TEI	0.81	0.41	0.95	.002
TPI and IWI	0.71	0.20	0.92	.014
The confidence intervals were computed using $\alpha = 0.05$				

**Table 7**

Combination	$r_p$	Lower	Upper	$p$
TPI and IRI-WORLD-NONOIL	0.95	0.88	0.98	< .001
The confidence intervals were computed using $\alpha = 0.05$ ; $n = 18$				



The background of the slide is a photograph of a car show. A white sedan is the central focus, with its driver-side door open. Several people are visible around the car, some looking at it. In the upper part of the image, there are logos for 'IKCO' (Iranian Keshavarzi Khandakari Company), 'KJ' (Keshavarzi Khandakari), and 'PSA' (Peugeot S.A.).

# Discussion

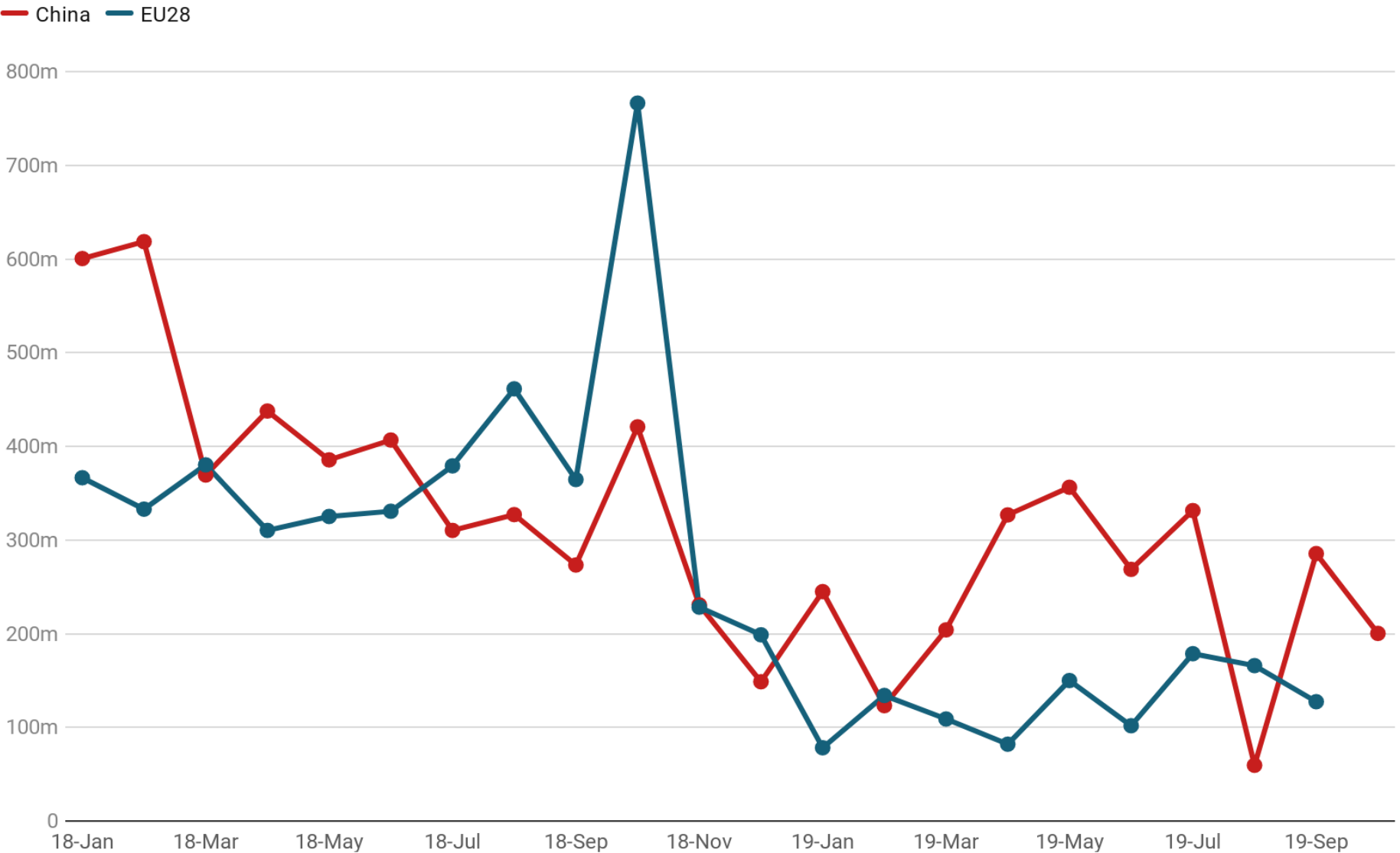
These are rudimentary findings.

But the process of “import reflection” (and “export deflection”) are an overlooked explanation for why Iran’s economy was able to shrug-off multilateral sanctions between 2008 and 2016.

So long as Iran is able to sustain its imports of key intermediate inputs from trade partners such as Europe, China, the UAE, and Turkey, it can expect to grow its non-oil exports in lockstep, partially mitigating the devastating effects of sanctions on oil revenues.

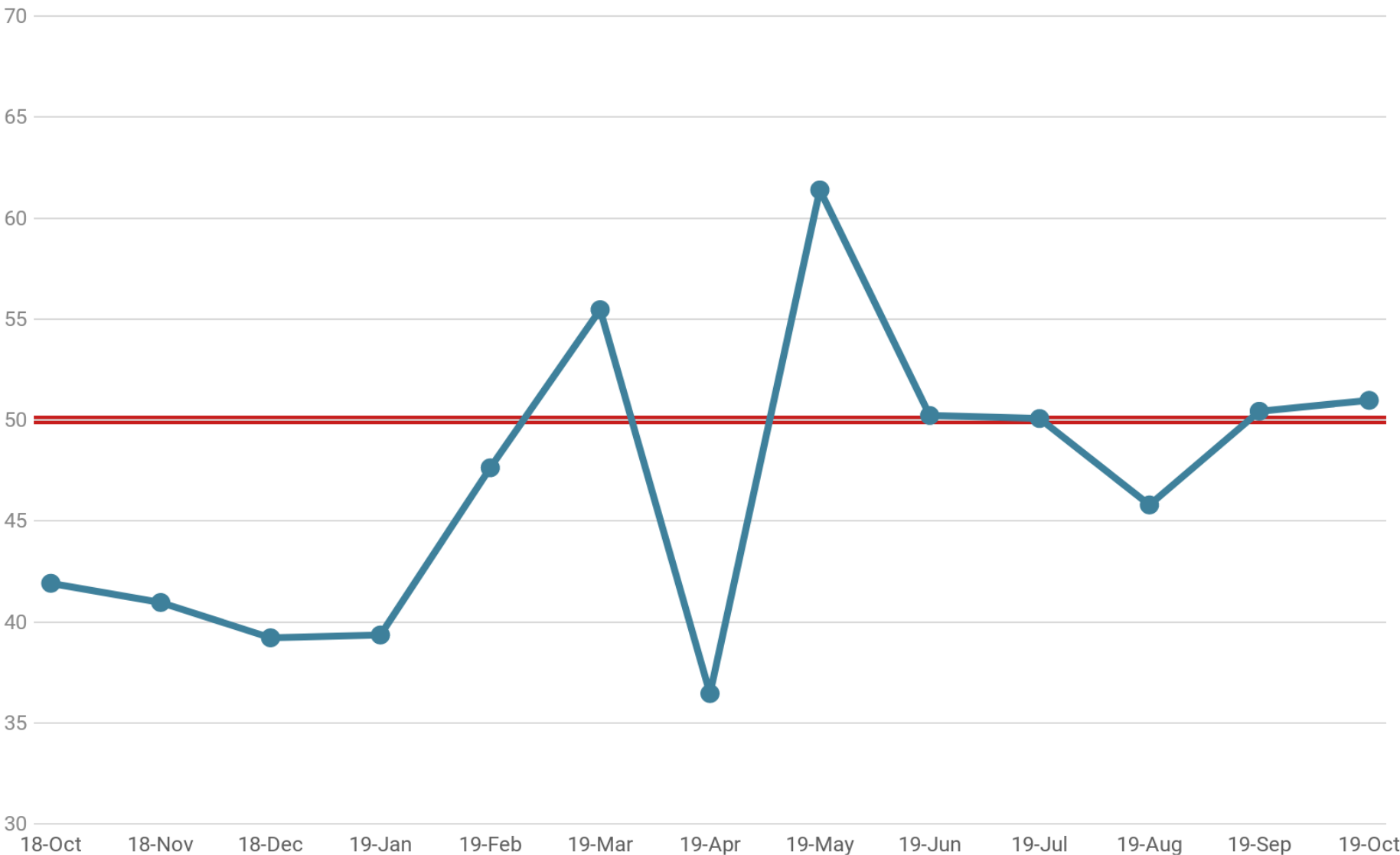
# Chinese and EU Exports of Machinery and Electrical Equipment to Iran

Total exports for HS Section XVI - US Dollars

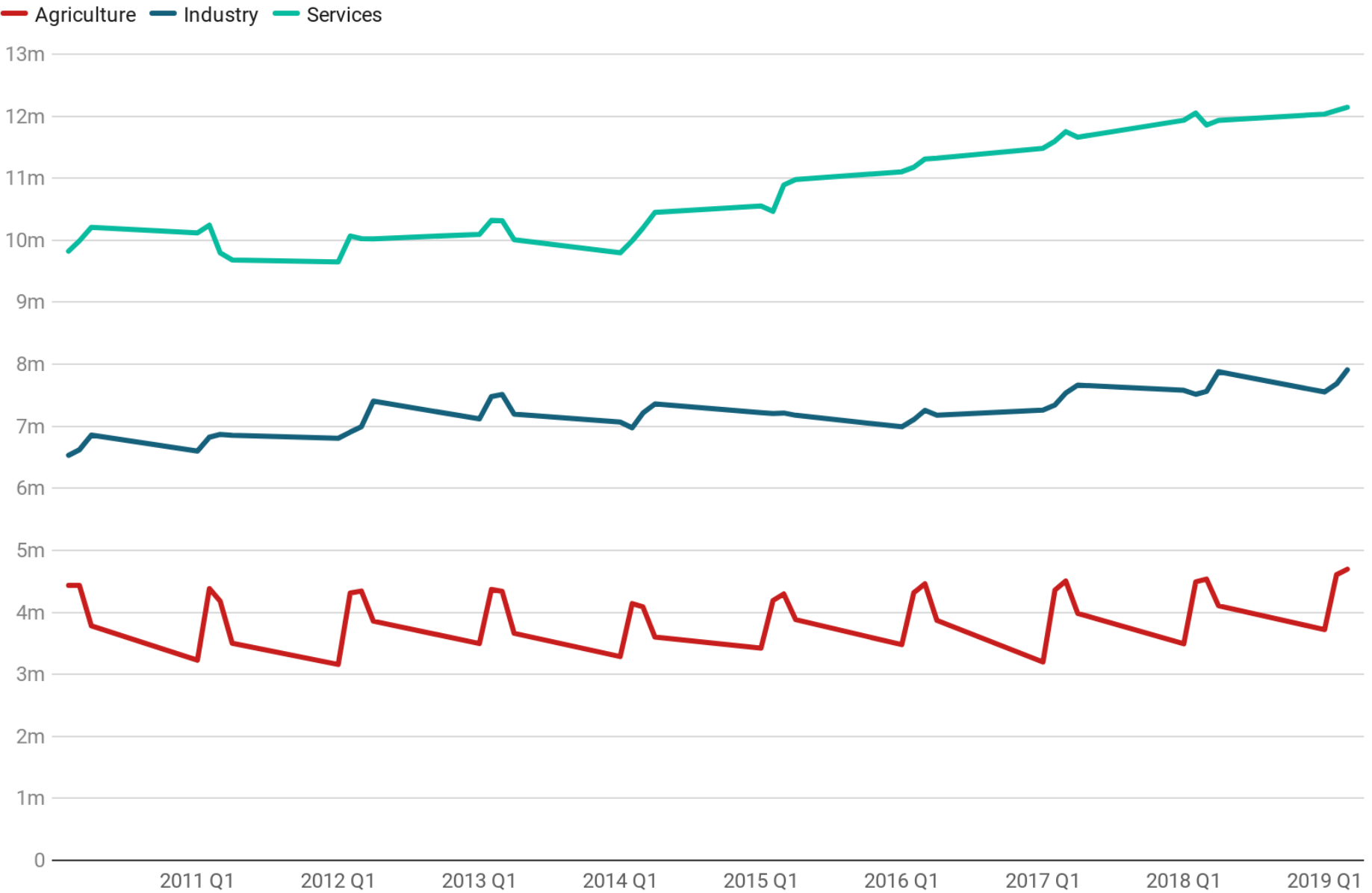


# Iran Purchasing Manager's Index (PMI)

Corresponds to period from Mehr 1387 to Mehr 1398



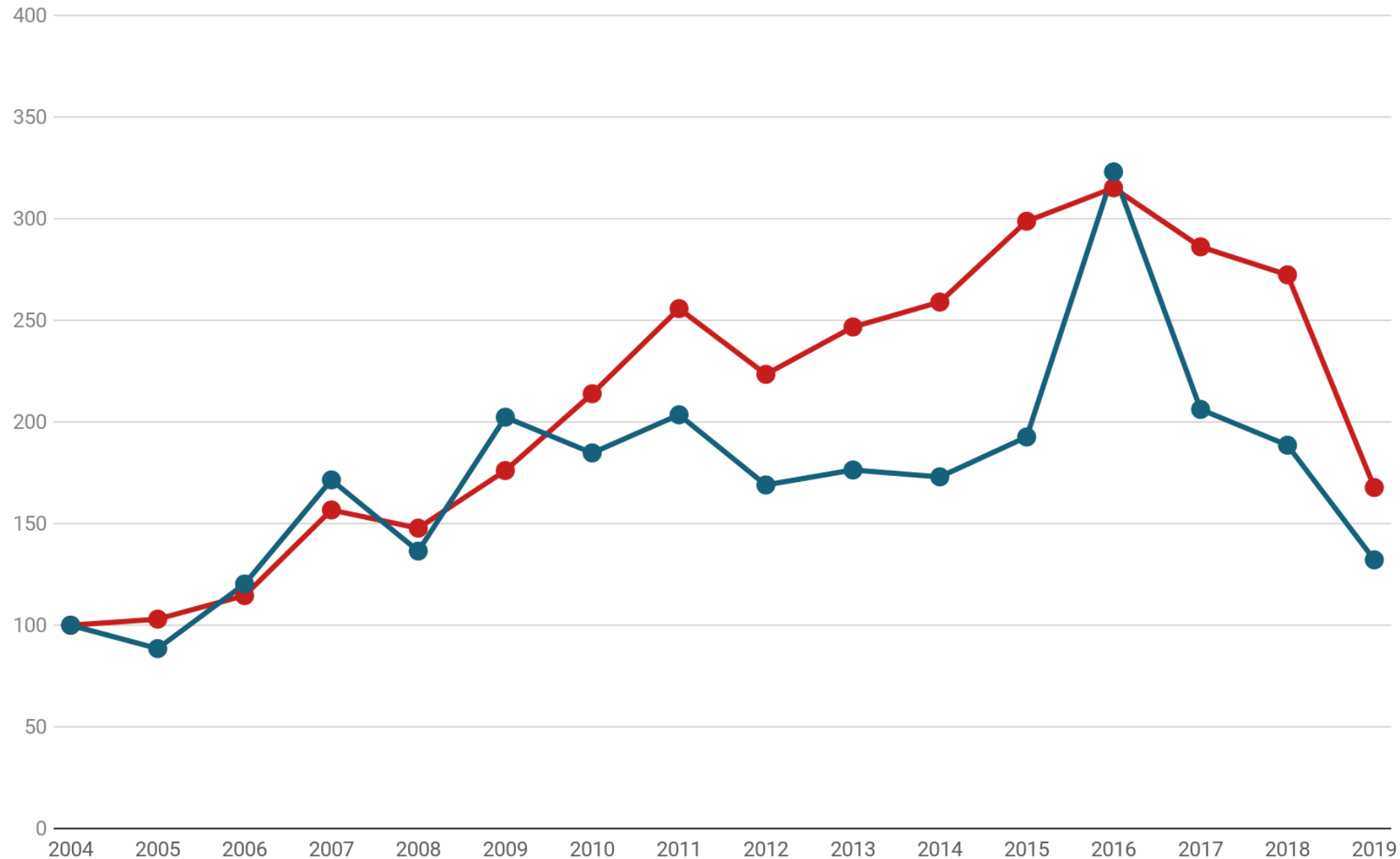
# Iran Employment by Sector





# Change in Value and Quantity of EU Pharmaceutical Exports to Iran

Indexed EU28 Total Exports - SITC Division 54 - (2019 = Jan-Aug)



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