

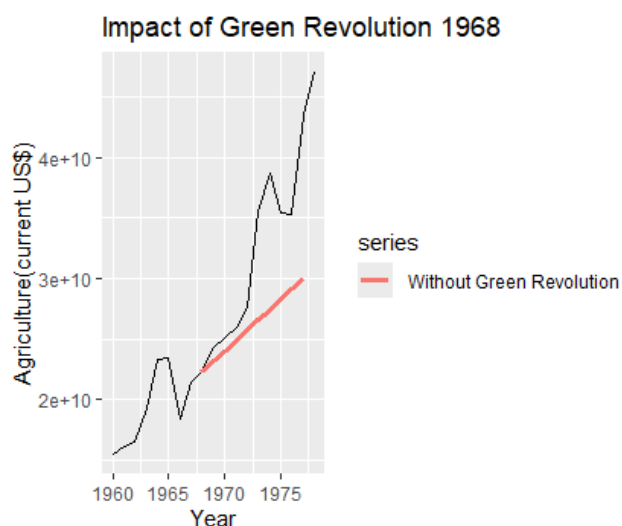
AGRICULTURE (PRIMARY SECTOR):

M.S. Swaminathan, 'Father of the Green Revolution' in India, led the initiative (1966) introducing high-yield wheat and rice varieties to poor farmers, significantly boosting food grain production in Punjab, Haryana, and Uttar Pradesh. Some of its salient features include the advent of mechanization, irrigation, the increased use of chemical fertilizers (such as Phosphamide, Methomyl, Phorate, Triazophos, etc), pesticides, and weedicides to reduce agricultural losses and enhance productivity, the introduction of high-yielding variety (HYV) seeds, etc. It focused on five key crops: wheat, rice, jowar, bajra, and maize, with wheat remaining the mainstay crop for years. However, it also led to a decrease in the cultivation of indigenous crops, such as millets, barley, sorghum, and groundnuts.

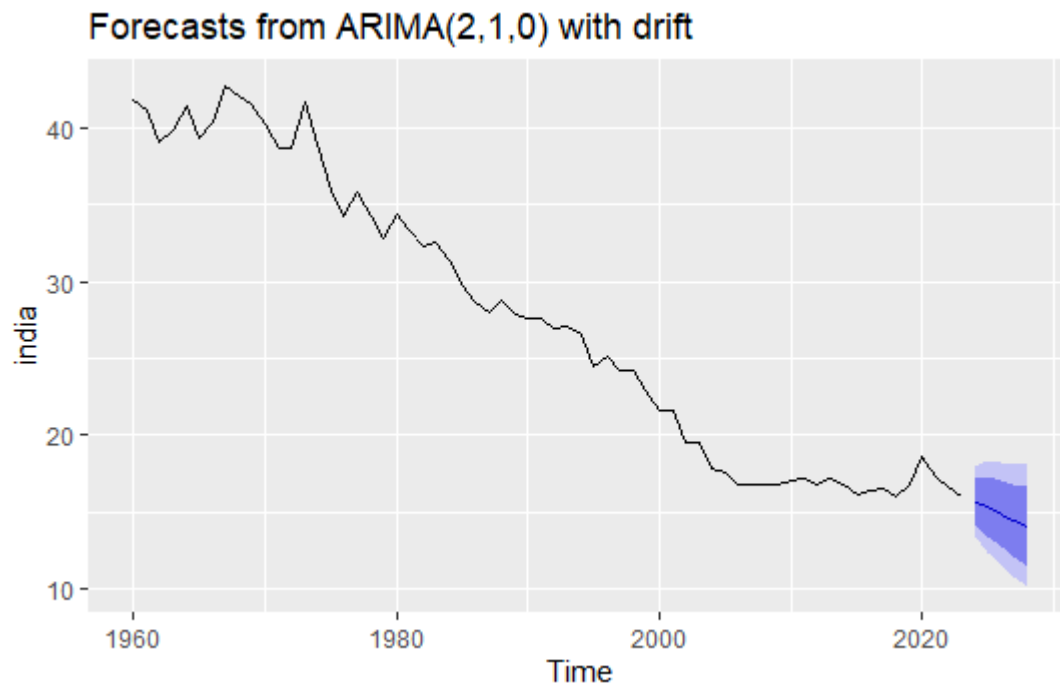
We present here the 10-year forecast for the agricultural sector's value-added current USD, without the Green Revolution hitting India. The forecast displays a rising trend starting from 22.3 billion dollars in 1968 to almost 30 billion USD in 1977.

```
> forecast_pre
      Point Forecast      Lo 80      Hi 80      Lo 95      Hi 95
1968  22287283333 18413949981 26160616685 16363531160 28211035506
1969  23141097759 17663377200 28618818318 14763647096 31518548422
1970  23994912185 17286102024 30703722346 13734672450 34255151920
1971  24848726611 17102059906 32595393316 13001222265 36696230956
1972  25702541037 17041504361 34363577712 12456628497 38948453577
1973  26556355463 17068665146 36044045780 12046185277 41066525649
1974  27410169889 17162293093 37658046684 11737394811 43082944966
1975  28263984315 17308543198 39219425432 11509082989 45018885641
1976  29117798741 17497798683 40737798798 11346542222 46889055259
1977  29971613167 17723057636 42220168698 11239064006 48704162327
```

For the intervention analysis, we have compared agriculture in India with and without the Green Revolution. Thanks to the Green Revolution, agricultural production soared much beyond expectations, revolutionizing the industry's growth trajectory.



The forecast for agriculture as a share of India's GDP is falling over time, starting from 15.6% in 2024 to 14.1% in 2028; as India transforms into an industrialised economy over time.



Forecast for agriculture share

```
> arimafore
      Point Forecast    Lo 80    Hi 80    Lo 95    Hi 95
2024    15.68807  14.22989  17.14625  13.45798  17.91816
2025    15.34725  13.40276  17.29175  12.37341  18.32110
2026    14.90600  12.75954  17.05247  11.62327  18.18873
2027    14.49373  12.12563  16.86183  10.87203  18.11543
2028    14.10543  11.49749  16.71337  10.11693  18.09393
```

MANUFACTURING

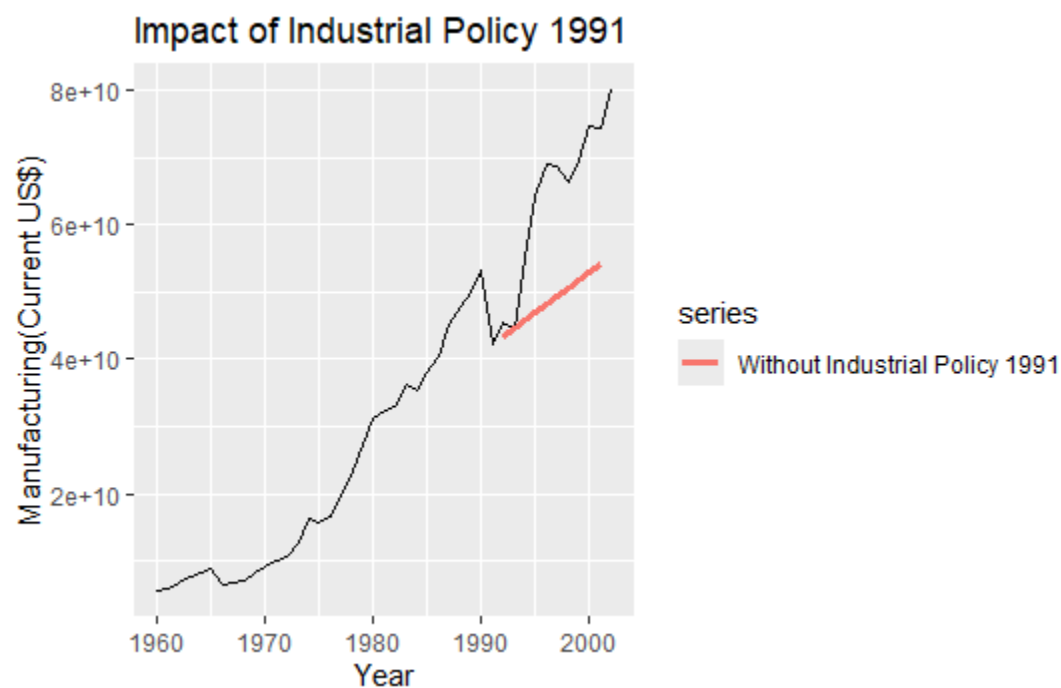
The New Industrial Policy of 1991 was a major policy change for India's economy, aimed at accelerating economic growth and correcting the industrial sector's weaknesses. The policy was introduced on July 24, 1991, under the leadership of Prime Minister P. V. Narasimha Rao and Finance Minister Manmohan Singh. It aspired to elevate industrial efficiency to global standards and expedite overall industrial growth through Liberalisation, Privatisation and Globalisation (LPG). Some of the policy's main objectives were to reduce government influence on the industry by abolishing industrial licensing and streamlining the licensing procedure(deregulate), encourage competition among industries to benefit the public and remove monopolies in specific sectors, increase foreign direct investment, support small businesses, allow duty-free imports of raw materials for export-oriented units and liberalise imports, simplify labour laws, etc. This policy affected the manufacturing sector, particularly those industries previously heavily regulated by the government, including sectors like textiles, steel, automobiles, and consumer durables, the most.

Even without policy interventions, the secondary sector's value-added forecast shows a robust 10-year growth trajectory, indicating inherent resilience and potential for sustained expansion.

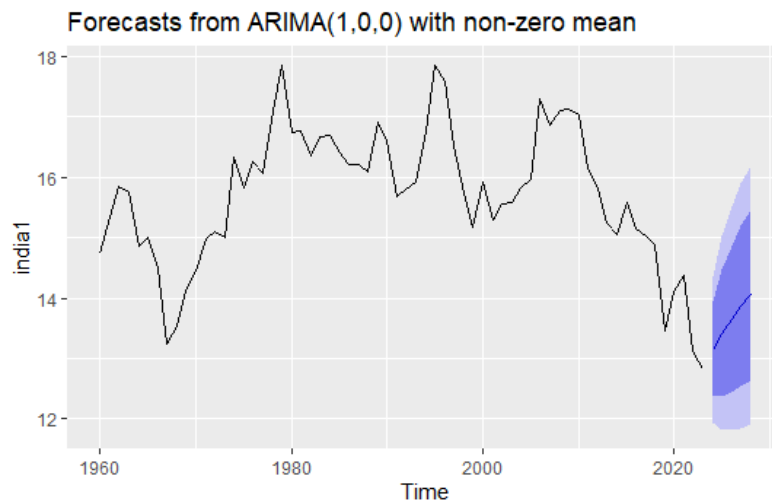
> forecast_pre

	Point Forecast	Lo 80	Hi 80	Lo 95	Hi 95
1992	43532108503	39975106474	47089110533	38092143341	48972073666
1993	44721800907	39691440395	49752161418	37028528395	52415073418
1994	45911493310	39750585072	52072401547	36489197257	55333789362
1995	47101185713	39987181654	54215189772	36221255388	57981116038
1996	48290878116	40337179783	56244576450	36126746218	60455010015
1997	49480570520	40767730534	58193410505	36155431653	62805709386
1998	50670262923	41259320140	60081205705	36277467962	65063057883
1999	51859955326	41799234304	61920676348	36473410303	67246500349
2000	53049647729	42378641642	63720653817	36729752242	69369543216
2001	54239340133	42991112078	65487568187	37036659828	71442020438

The Industrial Policy has catalysed a remarkable surge in the manufacturing sector, surpassing forecasts and reshaping the sector's landscape.



The 5-year forecast for the share of the manufacturing sector as a part of GDP exhibits an upward trend, given as follows:



```
> arimafore
      Point Forecast      Lo 80      Hi 80      Lo 95      Hi 95
2024      13.14864 12.35965 13.93763 11.94198 14.35530
2025      13.42039 12.37094 14.46983 11.81540 15.02537
2026      13.65872 12.44643 14.87100 11.80469 15.51274
2027      13.86774 12.54376 15.19171 11.84289 15.89258
2028      14.05105 12.64720 15.45491 11.90405 16.19806
```

SERVICES:

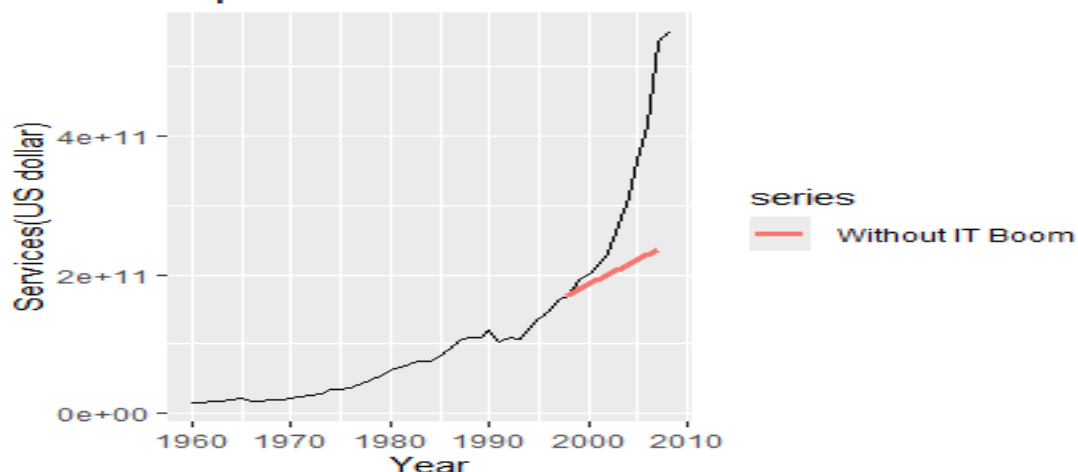
India's service sector is the largest and fastest-growing sector in the country, contributing almost 50% to the country's GDP. Also known as the tertiary sector, it includes a wide range of economic activities that provide intangible services like Information technology (IT) and software services, financial services, healthcare and medical tourism, education and training, etc.

In the 1990s (1998), the IT sector in India experienced a significant boom. This was largely due to the liberalisation of the Indian economy and the opening of the country to foreign investment.

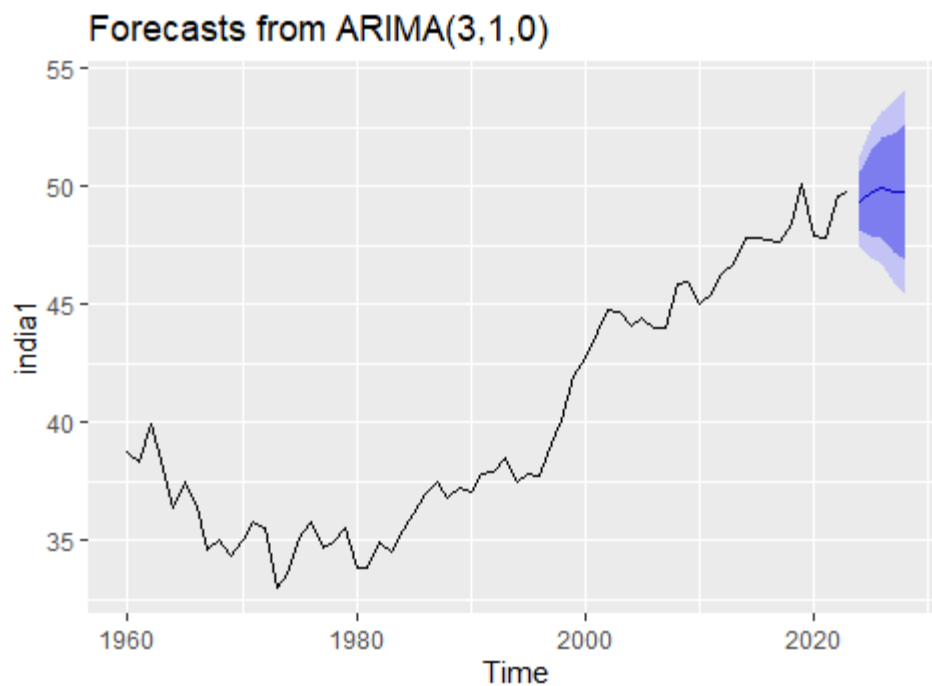
With the advent of the IT boom, the service sector has been witnessing remarkable growth, surpassing all forecasts. The IT Boom was not only transformative for India but for the whole world. Starting slowly in the late 1990s, but gaining rapid ground with the Y2K scare, demand for IT talent from India exploded, and large global companies (such as Infosys, Wipro, and Tata/TCS) rose to fill demand. The IT industry has become a major contributor to India's GDP, accounting for 7.5% in 2023. It's expected to contribute 10% by 2025. The IT industry has also created millions of jobs, which has fuelled domestic consumption and economic growth.

```
> forecast_pre
      Point Forecast      Lo 80      Hi 80      Lo 95      Hi 95
1998 169519730332 162724310256 176315150409 159127032163 179912428502
1999 178958074144 168652240075 189263908213 163196661065 194719487222
2000 185949017048 169997346250 201900687847 161553041812 210344992285
2001 192939959953 172169949283 213709970623 161174969791 224704950115
2002 199930902857 174641417130 225220388584 161253972061 238607833654
2003 206921845762 177232027926 236611663598 161515187747 252328503777
2004 213912788666 179858270991 247967306342 161830898285 265994679048
2005 220903731571 182474992223 259332470919 162132046436 279675416706
2006 227894674475 185055509789 270733839161 162377825860 293411523091
2007 234885617380 187583149263 282188085497 162542735219 307228499541
```

Impact of IT sector Boom of 1998



The service sector is projected(5-year) to account for about 50% as a share of the Indian GDP.



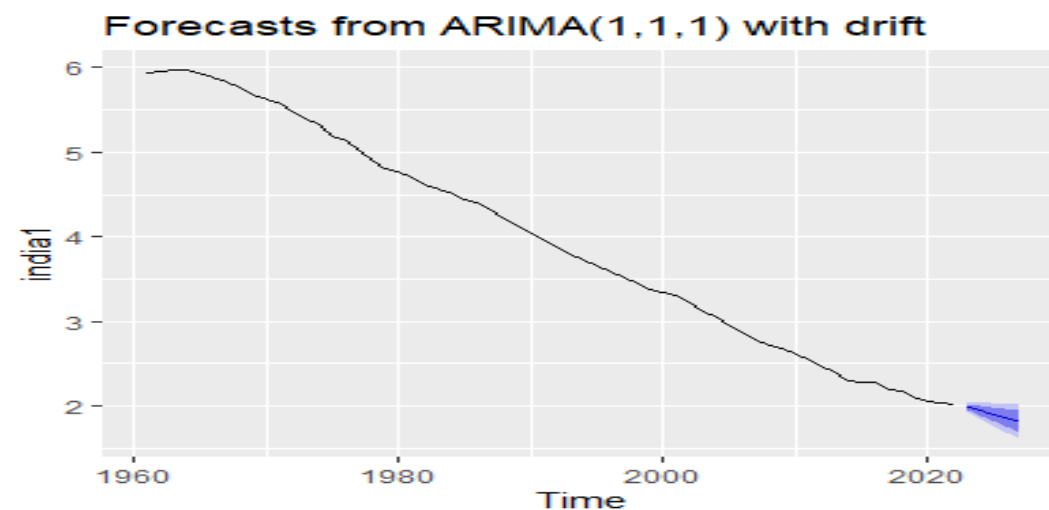
```
> arimafore
```

	Point Forecast	Lo 80	Hi 80	Lo 95	Hi 95
2024	49.38254	48.12321	50.64187	47.45656	51.30852
2025	49.74844	47.90952	51.58737	46.93605	52.56084
2026	49.92627	47.80930	52.04324	46.68864	53.16390
2027	49.74490	47.24232	52.24749	45.91753	53.57228
2028	49.78543	46.89697	52.67389	45.36791	54.20295

Now, let's compare the sectoral classification of India's GDP with that of some other countries.

DEMOGRAPHY

Fertility rates



Model and forecast

```
> arimafore = forecast(india.ARIMA, h=5)
> arimafore
```

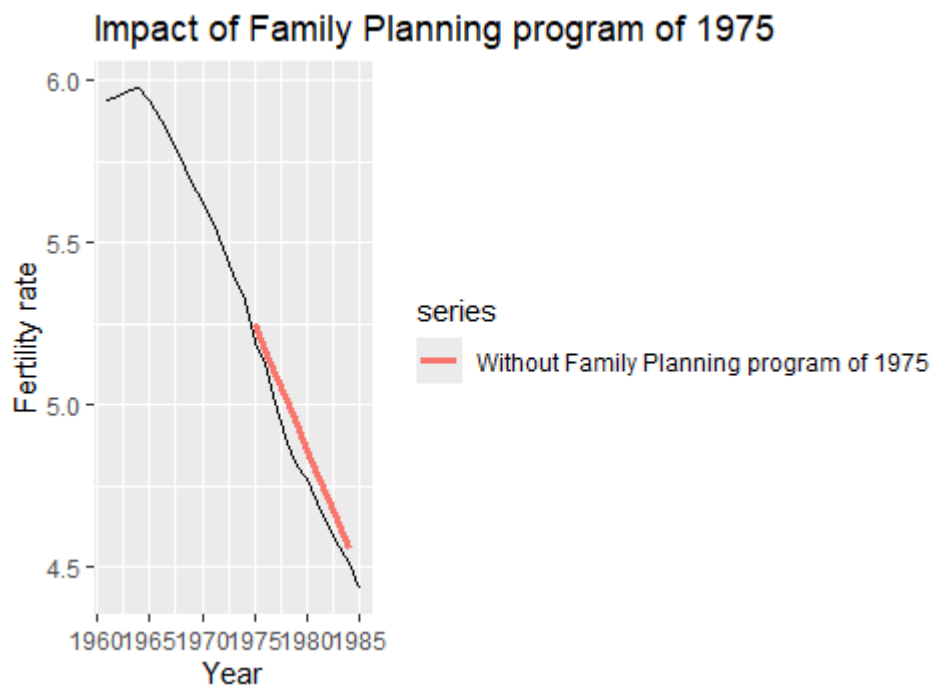
	Point Forecast	Lo 80	Hi 80	Lo 95	Hi 95
2023	1.977521	1.944605	2.010437	1.927180	2.027862
2024	1.941048	1.883398	1.998697	1.852880	2.029215
2025	1.901985	1.818930	1.985040	1.774963	2.029007
2026	1.860684	1.751702	1.969666	1.694011	2.027358
2027	1.817448	1.682330	1.952566	1.610803	2.024094

```
> autoplot(arimafore)
> summary(india.ARIMA)
Series: india1
ARIMA(1,1,1) with drift

Coefficients:
      ar1      ma1      drift
    0.8645 -0.4267 -0.0556
s.e.  0.1242  0.1763  0.0147

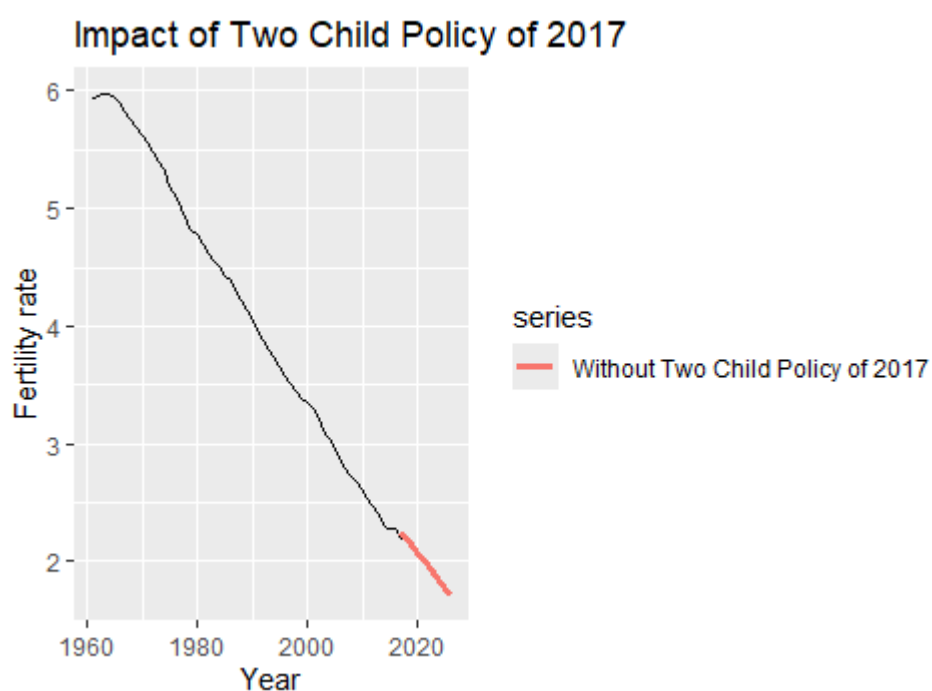
sigma^2 = 0.0006597: log likelihood = 138.06
AIC=-268.11  AICC=-267.4  BIC=-259.67
```

Impact of family planning 1975 on fertility rate



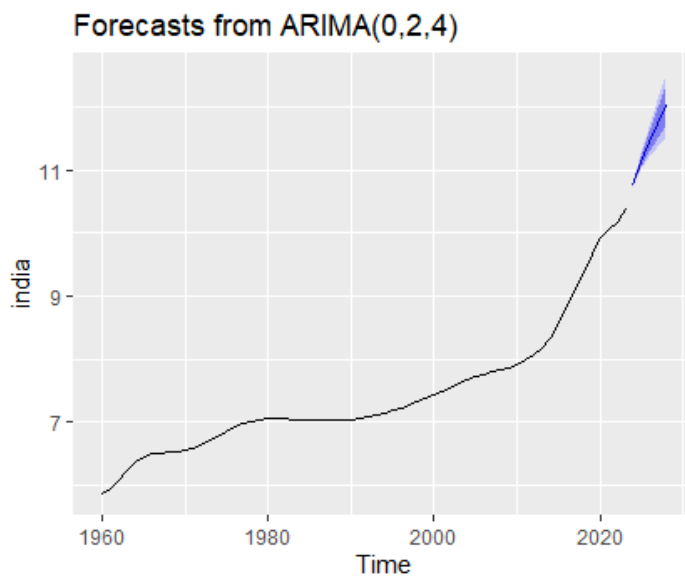
	Point	Forecast	Lo 80	Hi 80	Lo 95	Hi 95
1975		5.248	5.224711	5.271289	5.212382	5.283618
1976		5.171	5.118924	5.223076	5.091356	5.250644
1977		5.094	5.006860	5.181140	4.960731	5.227269
1978		5.017	4.889440	5.144560	4.821914	5.212086
1979		4.940	4.767283	5.112717	4.675852	5.204148
1980		4.863	4.640836	5.085164	4.523229	5.202771
1981		4.786	4.510439	5.061561	4.364566	5.207434
1982		4.709	4.376365	5.041635	4.200278	5.217722
1983		4.632	4.238834	5.025166	4.030705	5.233295
1984		4.555	4.098034	5.011966	3.856131	5.253869

2017: 2-Child Policy



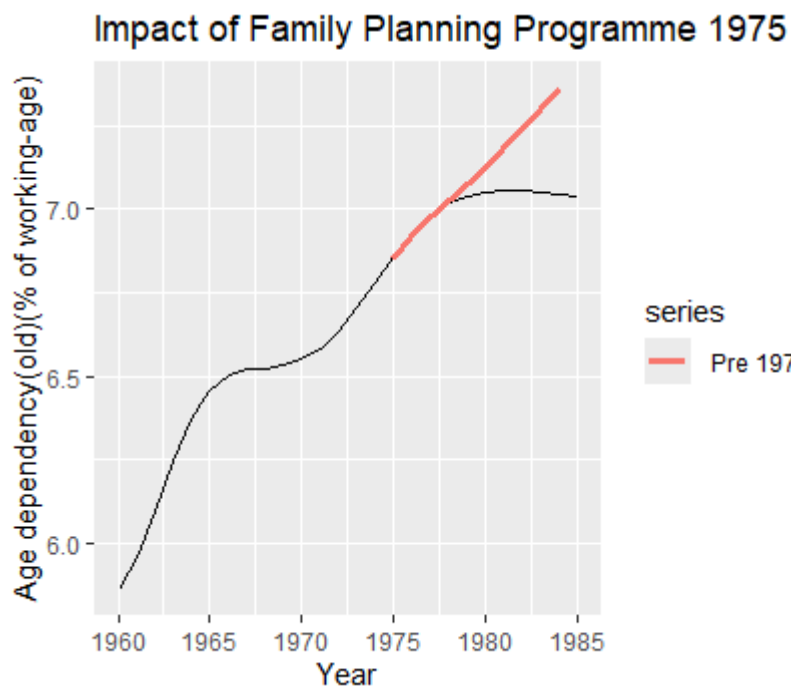
	Point	Forecast	Lo 80	Hi 80	Lo 95	Hi 95
2017		2.238908	2.206366	2.271450	2.189140	2.288677
2018		2.192924	2.131749	2.254100	2.099365	2.286484
2019		2.139903	2.051943	2.227862	2.005381	2.274425
2020		2.082715	1.970334	2.195097	1.910843	2.254588
2021		2.023063	1.888538	2.157587	1.817325	2.228801
2022		1.961951	1.807292	2.116609	1.725420	2.198481
2023		1.899975	1.726894	2.073056	1.635270	2.164680
2024		1.837488	1.647424	2.027552	1.546810	2.128166
2025		1.774699	1.568862	1.980536	1.459899	2.089499
2026		1.711730	1.491142	1.932319	1.374370	2.049091

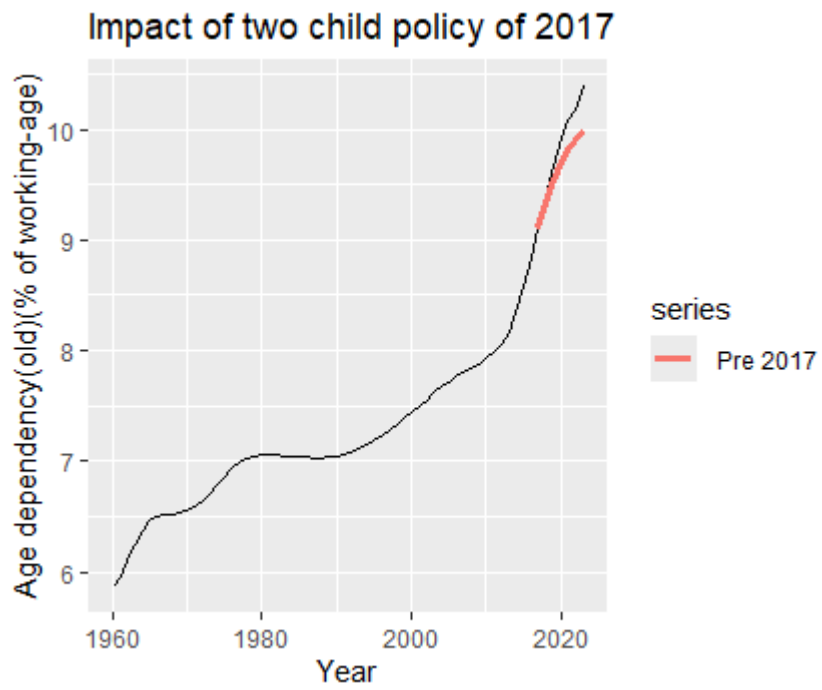
Old age dependency ratio



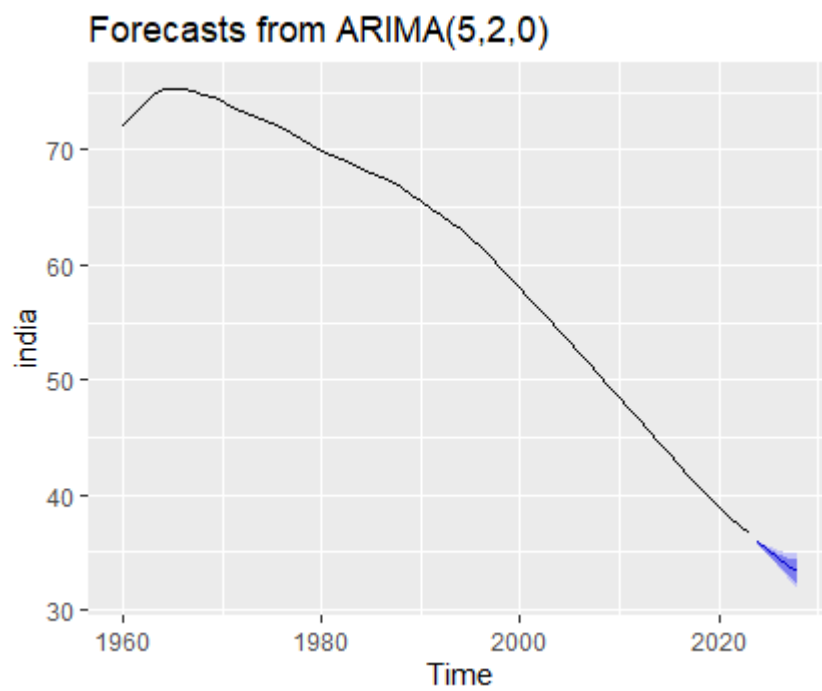
> arimafore

	Point	Forecast	Lo 80	Hi 80	Lo 95	Hi 95
2024		10.76343	10.74386	10.78300	10.73350	10.79336
2025		11.13347	11.05767	11.20926	11.01755	11.24939
2026		11.44620	11.29130	11.60110	11.20930	11.68310
2027		11.73650	11.49859	11.97441	11.37265	12.10035
2028		12.02679	11.70521	12.34838	11.53497	12.51862



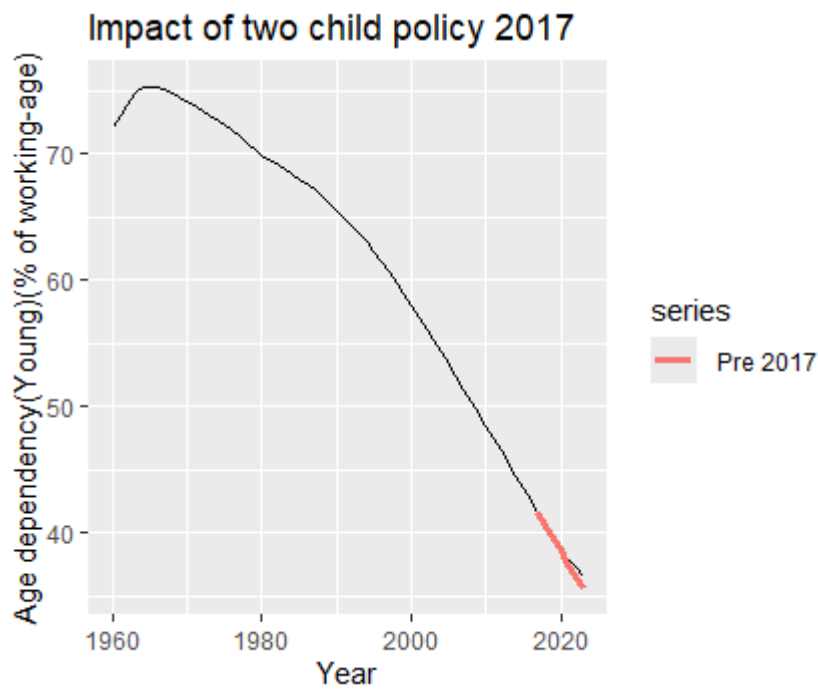
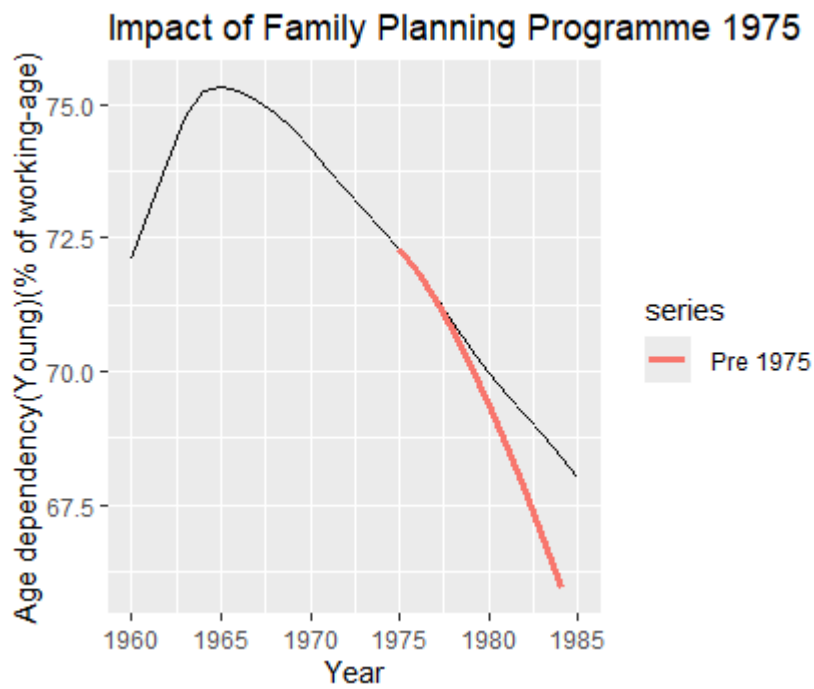


Young age dependent

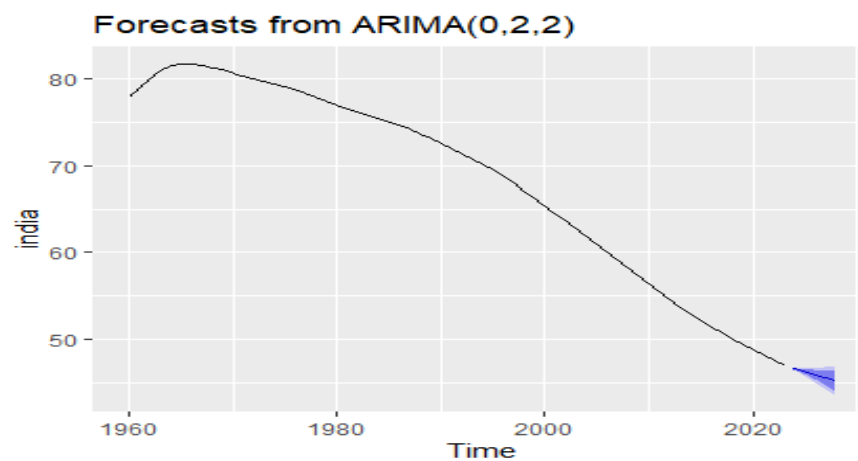


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> arimafore
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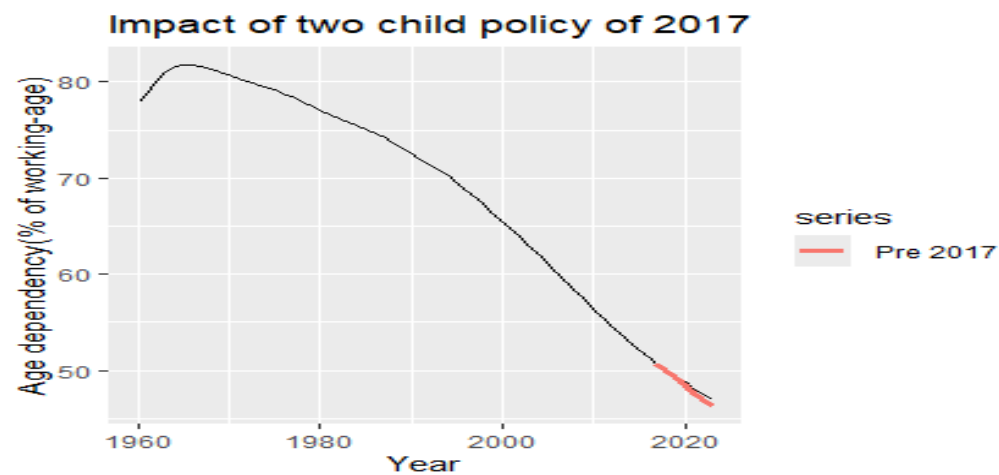
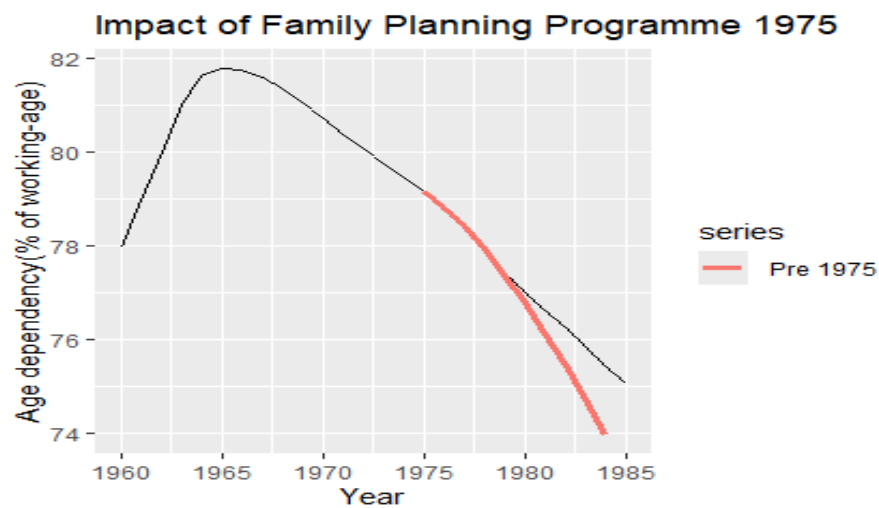
	Point Forecast	Lo 80	Hi 80	Lo 95	Hi 95
2024	35.88540	35.81633	35.95448	35.77976	35.99104
2025	35.18782	34.96454	35.41110	34.84635	35.52930
2026	34.50749	34.06727	34.94771	33.83423	35.18074
2027	33.86929	33.15748	34.58110	32.78067	34.95791
2028	33.27360	32.24236	34.30484	31.69646	34.85074



Working age population:

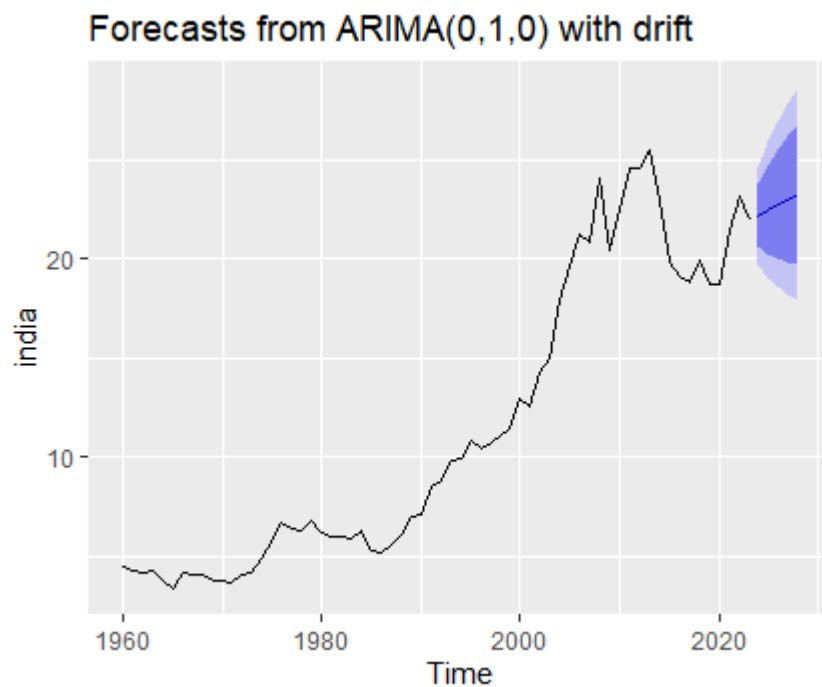


	Point Forecast	Lo 80	Hi 80	Lo 95	Hi 95
2024	46.62439	46.55268	46.69609	46.51473	46.73405
2025	46.27873	46.03092	46.52653	45.89974	46.65772
2026	45.93306	45.43945	46.42668	45.17814	46.68799
2027	45.58740	44.79755	46.37725	44.37943	46.79537
2028	45.24174	44.11303	46.37045	43.51552	46.96796



TRADE:

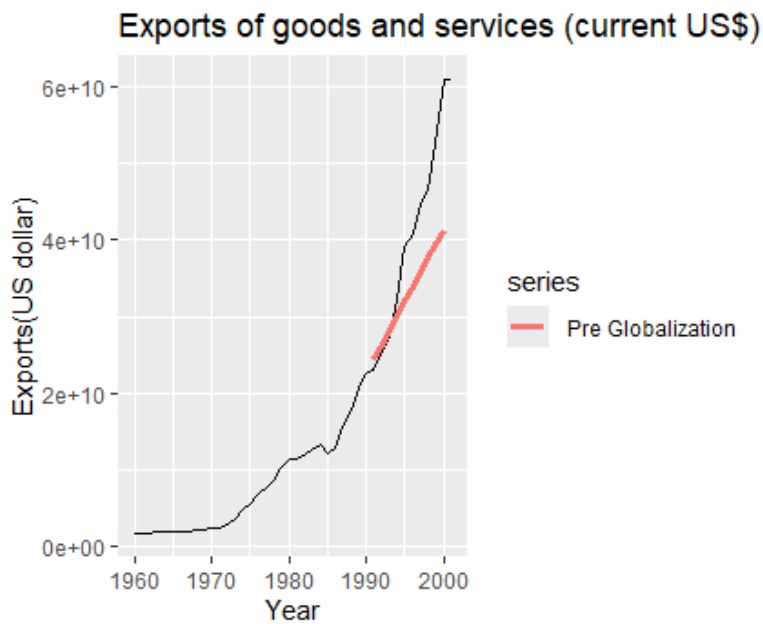
EXPORT AS A SHARE



Forecasts of export as a share

```
> arimafore
Point Forecast    Lo 80    Hi 80    Lo 95    Hi 95
2024      22.16829 20.59838 23.73819 19.76733 24.56924
2025      22.44493 20.22475 24.66510 19.04946 25.84039
2026      22.72157 20.00242 25.44072 18.56299 26.88015
2027      22.99821 19.85841 26.13802 18.19630 27.80013
2028      23.27486 19.76445 26.78526 17.90615 28.64356
```

Intervention analysis of export: (in current \$)



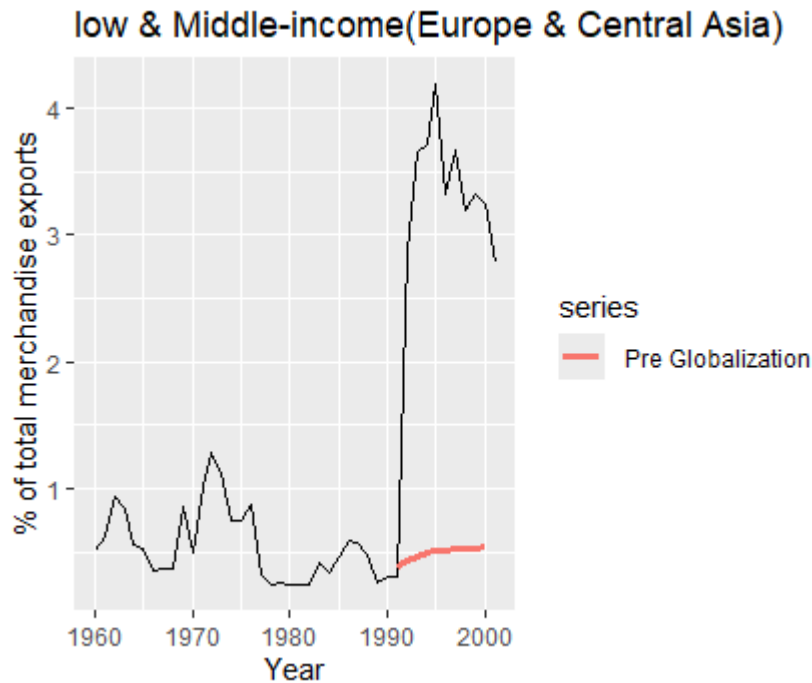
Forecast (in current \$) exports intervention analysis:

```
> forecast_pre
```

	Point Forecast	Lo 80	Hi 80	Lo 95	Hi 95
1991	24508853712	23574720316	25442987108	23080219967	25937487457
1992	26377932512	24289146739	28466718285	23183410343	29572454681
1993	28247011312	24751804191	31742218433	22901553306	33592469318
1994	30116090112	24999630785	35232549439	22291140825	37941039399
1995	31985168912	25057450235	38912887589	21390137492	42580200332
1996	33854247712	24943183055	42765312369	20225950372	47482545052
1997	35723326512	24670511115	46776141909	18819504077	52627148947
1998	37592405312	24250311733	50934498891	17187434028	57997376596
1999	39461484112	23691497353	55231470871	15343370635	63579597589
2000	41330562912	23001542138	59659583686	13298744643	69362381181

REGION-WISE:

1. LOW AND MIDDLE-INCOME EUROPE AND CENTRAL ASIA

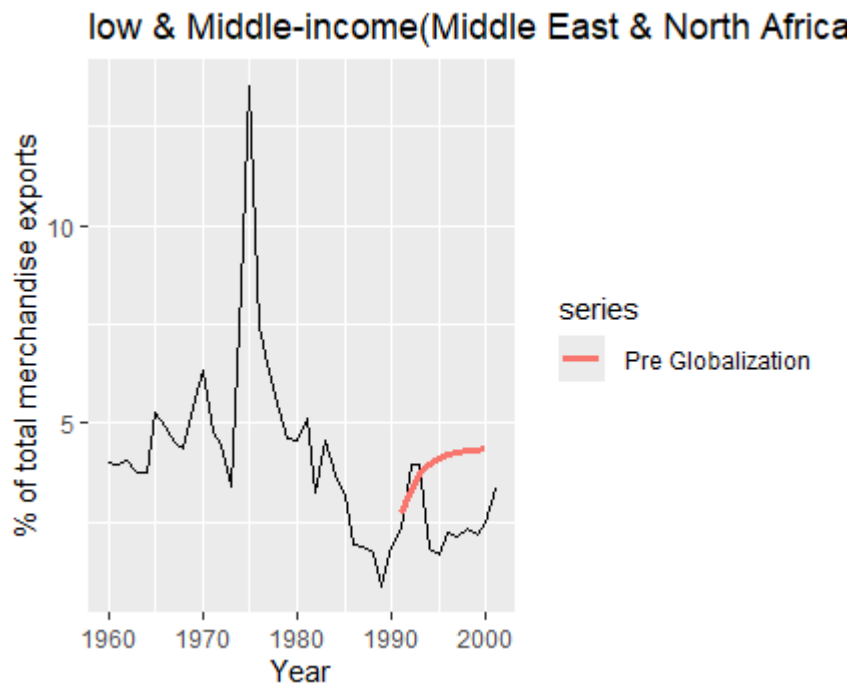


Forecast pre

```
> forecast_pre
```

	Point Forecast	Lo 80	Hi 80	Lo 95	Hi 95
1991	0.3786687	0.1023433	0.6549941	-0.04393455	0.8012719
1992	0.4323911	0.1011055	0.7636767	-0.07426656	0.9390487
1993	0.4679192	0.1152786	0.8205597	-0.07139798	1.0072364
1994	0.4914149	0.1298309	0.8529989	-0.06158011	1.0444099
1995	0.5069532	0.1415266	0.8723799	-0.05191861	1.0658251
1996	0.5172291	0.1501345	0.8843238	-0.04419360	1.0786519
1997	0.5240249	0.1562032	0.8918466	-0.03850987	1.0865597
1998	0.5285191	0.1603798	0.8966584	-0.03450131	1.0915395
1999	0.5314913	0.1632132	0.8997693	-0.03174143	1.0947240
2000	0.5334568	0.1651181	0.9017956	-0.02986869	1.0967823

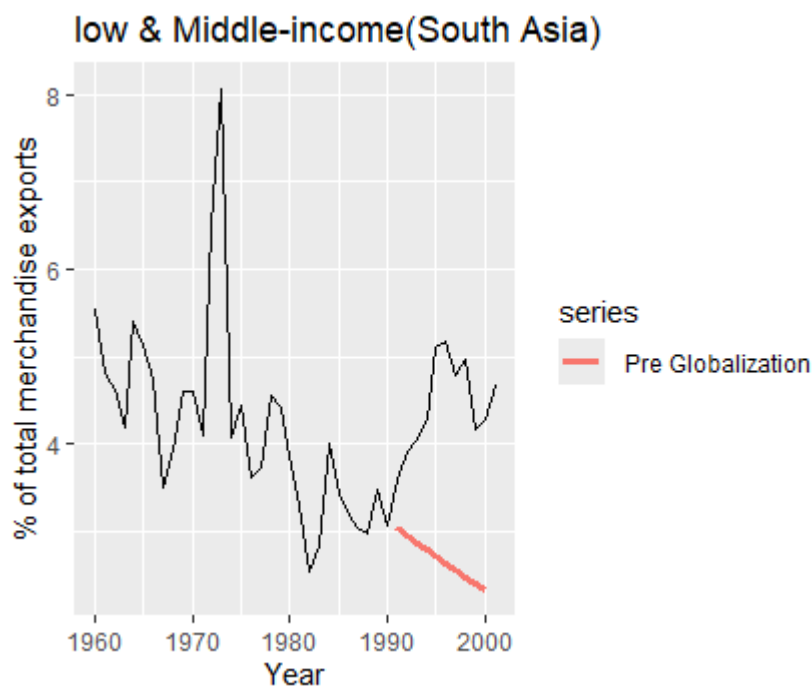
2. MIDDLE-EAST AND NORTH AFRICA



Forecast pre

```
> forecast_pre
      Point Forecast      Lo 80      Hi 80      Lo 95      Hi 95
1991      2.746085  0.4502223  5.041947 -0.7651340  6.257304
1992      3.317243  0.5775507  6.056935 -0.8727546  7.507240
1993      3.689156  0.7816601  6.596653 -0.7574754  8.135788
1994      3.931330  0.9555396  6.907121 -0.6197489  8.482410
1995      4.089024  1.0847444  7.093303 -0.5056251  8.683673
1996      4.191707  1.1754295  7.207985 -0.4212914  8.804706
1997      4.258570  1.2372195  7.279921 -0.3621868  8.879327
1998      4.302108  1.2786094  7.325607 -0.3219342  8.926151
1999      4.330459  1.3060492  7.354868 -0.2949764  8.955893
2000      4.348919  1.3241237  7.373714 -0.2771062  8.974944
```

3. South Asia

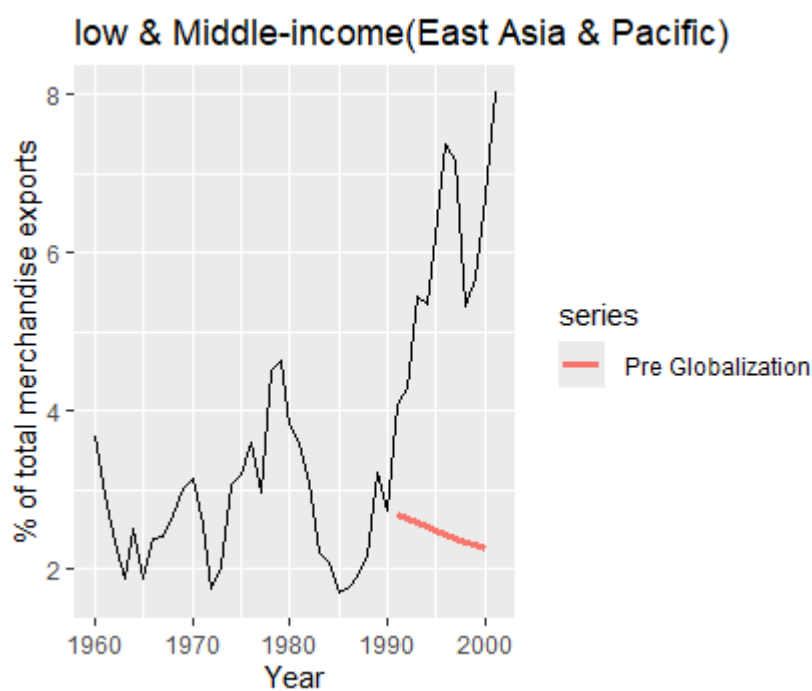


Forecast pre

```
> forecast_pre
```

	Point	Forecast	Lo 80	Hi 80	Lo 95	Hi 95
1991		3.038392	1.64827884	4.428505	0.9123973	5.164387
1992		2.950776	1.14252065	4.759031	0.1852883	5.716263
1993		2.874146	0.70630243	5.041989	-0.4412844	6.189575
1994		2.795669	0.32310804	5.268229	-0.9857865	6.577124
1995		2.717502	-0.02662039	5.461625	-1.4792712	6.914276
1996		2.639284	-0.35177268	5.630340	-1.9351423	7.213710
1997		2.561074	-0.65804120	5.780189	-2.3621378	7.484286
1998		2.482863	-0.94918825	5.914913	-2.7660062	7.731731
1999		2.404652	-1.22787460	6.037178	-3.1508178	7.960121
2000		2.326440	-1.49606121	6.148942	-3.5195714	8.172452

4. EAST ASIA AND PACIFIC

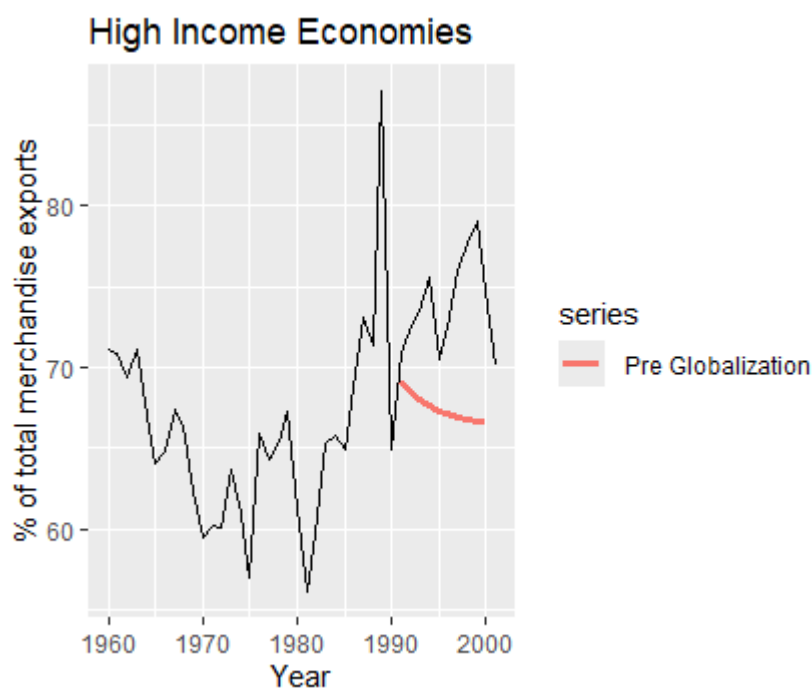


Forecast-pre

```
> forecast_pre
```

	Point	Forecast	Lo 80	Hi 80	Lo 95	Hi 95
1991	2.672154	1.89043933	3.453869	1.47662442	3.867684	
1992	2.621482	1.52640198	3.716562	0.94670156	4.296263	
1993	2.571771	1.24315161	3.900390	0.53982307	4.603719	
1994	2.523002	1.00313583	4.042869	0.19856715	4.847437	
1995	2.475158	0.79162232	4.158695	-0.09958787	5.049905	
1996	2.428222	0.60095682	4.255487	-0.36633889	5.222783	
1997	2.382175	0.42653094	4.337820	-0.60872471	5.373076	
1998	2.337002	0.26530020	4.408704	-0.83139256	5.505397	
1999	2.292685	0.11511944	4.470251	-1.03761437	5.622985	
2000	2.249209	-0.02559622	4.524015	-1.22980544	5.728224	

HIGH income economies

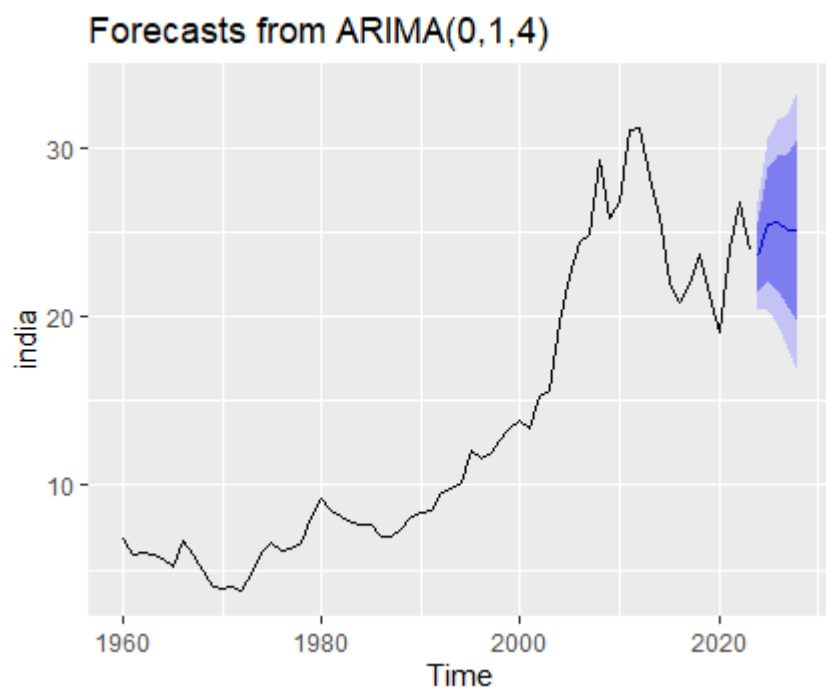


Forecast pre

```
> forecast_pre
```

	Point	Forecast	Lo 80	Hi 80	Lo 95	Hi 95
1991	69.16962	62.40332	75.93592	58.82146	79.51779	
1992	68.49203	61.24850	75.73557	57.41400	79.57006	
1993	67.98095	60.47945	75.48245	56.50840	79.45351	
1994	67.59546	59.95109	75.23984	55.90440	79.28653	
1995	67.30471	59.58023	75.02919	55.49114	79.11828	
1996	67.08540	59.31572	74.85508	55.20270	78.96810	
1997	66.91999	59.12471	74.71527	54.99814	78.84184	
1998	66.79522	58.98542	74.60503	54.85116	78.73929	
1999	66.70112	58.88306	74.51917	54.74443	78.65780	
2000	66.63014	58.80739	74.45289	54.66628	78.59400	

IMPORT SHARE



Import share forecast

```
> arimafore
      Point Forecast    Lo 80    Hi 80    Lo 95    Hi 95
2024      23.55239  21.45492  25.64985  20.34459  26.76018
2025      25.51114  22.15860  28.86369  20.38387  30.63842
2026      25.59687  21.64151  29.55224  19.54766  31.64608
2027      25.12789  20.57368  29.68210  18.16282  32.09295
2028      25.12789  19.64857  30.60721  16.74799  33.50778
```

INTERVENTION ANALYSIS OF IMPORT CURRENT

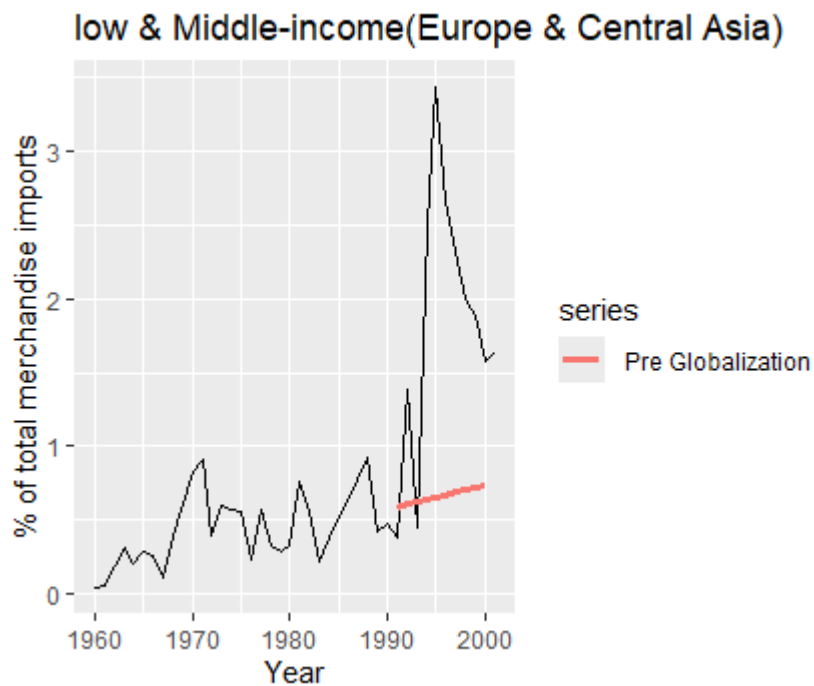


```
> forecast_pre
```

	Point Forecast	Lo 80	Hi 80	Lo 95	Hi 95
1991	28561290882	26984226279	30138355486	26149378707	30973203057
1992	30252607183	27272105973	33233108393	25694323940	34810890427
1993	31807176943	27872602533	35741751354	25789764654	37824589232
1994	33433092670	28433841674	38432343667	25787398056	41078787285
1995	35021784443	29003197501	41040371385	25817150028	44226418858
1996	36629897394	29539704887	43720089902	25786383694	47473411095
1997	38227877564	30049016694	46406738435	25719389282	50736365847
1998	39831144399	30524107122	49138181676	25597259196	54065029602
1999	41431652976	30965450747	51897855205	25424977962	57438327991
2000	43033600643	31371987966	54695213320	25198703115	60868498171

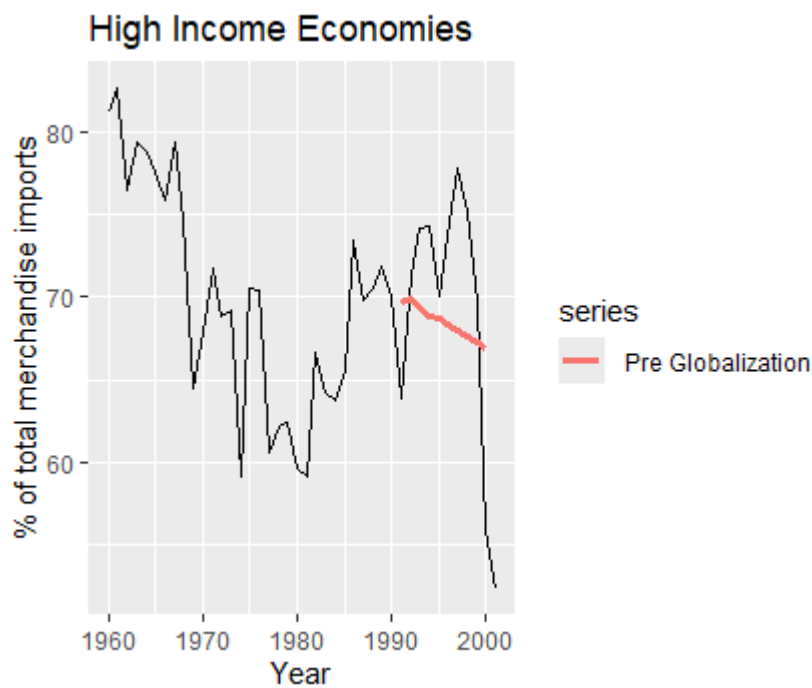
INTERVENTION ANALYSIS BY REGIONS

1. EUROPE AND CENTRAL ASIA



```
> forecast_pre
      Point Forecast      Lo 80      Hi 80      Lo 95      Hi 95
1991      0.5899380 0.3067711 0.8731048 0.156871668 1.023004
1992      0.6063052 0.2957537 0.9168567 0.131357726 1.081253
1993      0.6226724 0.2869628 0.9583820 0.109248834 1.136096
1994      0.6390396 0.2799300 0.9981492 0.089828881 1.188250
1995      0.6554068 0.2743314 1.0364822 0.072602313 1.238211
1996      0.6717740 0.2699318 1.0736162 0.057209337 1.286339
1997      0.6881412 0.2665538 1.1097286 0.043378933 1.332903
1998      0.7045084 0.2640601 1.1449566 0.030900920 1.378116
1999      0.7208756 0.2623416 1.1794096 0.019608394 1.422143
2000      0.7372428 0.2613099 1.2131757 0.009366196 1.465119
```

2. High income economies



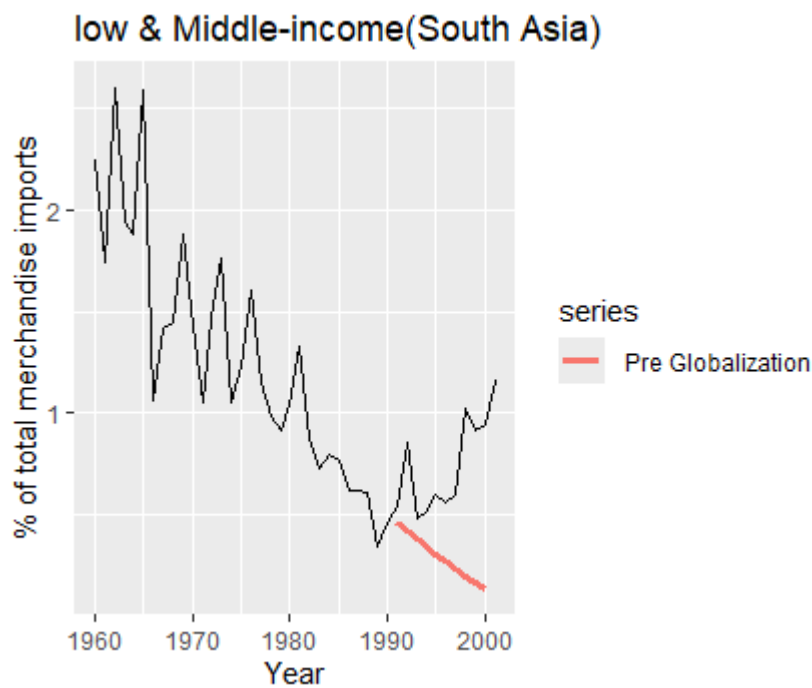
Forecast-pre

```
> forecast_pre
```

	Point	Forecast	Lo 80	Hi 80	Lo 95	Hi 95
1991		69.62319	64.01476	75.23162	61.04583	78.20055
1992		69.94521	63.43761	76.45280	59.99270	79.89771
1993		69.37856	62.60551	76.15162	59.02007	79.73706
1994		68.84639	61.25006	76.44273	57.22880	80.46399
1995		68.67598	60.35395	76.99802	55.94853	81.40344
1996		68.34213	59.57599	77.10827	54.93548	81.74879
1997		67.92249	58.64517	77.19981	53.73406	82.11093
1998		67.60730	57.79577	77.41882	52.60186	82.61273
1999		67.28542	57.02267	77.54816	51.58991	82.98092
2000		66.92210	56.22450	77.61971	50.56152	83.28268

South Asia

Holt model used

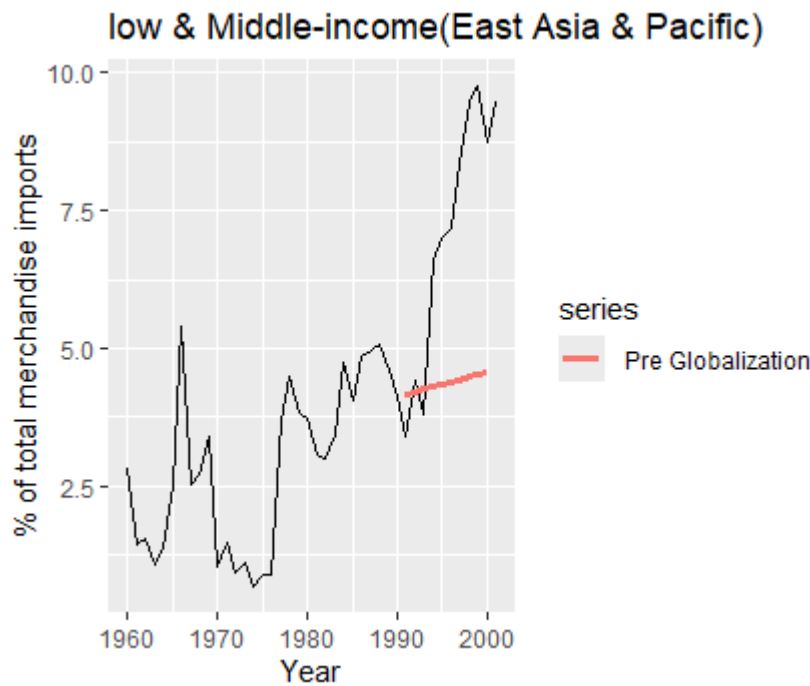


Forecast-pre

Forecasts:

	Point Forecast	Lo 80	Hi 80	Lo 95	Hi 95
1991	0.4612801	0.05611056	0.8664497	-0.1583732	1.0809335
1992	0.4213142	0.01614464	0.8264838	-0.1983392	1.0409676
1993	0.3821908	-0.02297873	0.7873604	-0.2374625	1.0018442
1994	0.3438923	-0.06127730	0.7490619	-0.2757611	0.9635457
1995	0.3064012	-0.09876847	0.7115708	-0.3132523	0.9260547
1996	0.2697005	-0.13546926	0.6748702	-0.3499532	0.8893541
1997	0.2337735	-0.17139634	0.6389433	-0.3858803	0.8534272
1998	0.1986039	-0.20656602	0.6037738	-0.4210500	0.8182578
1999	0.1641758	-0.24099427	0.5693458	-0.4554783	0.7838299
2000	0.1304735	-0.27469673	0.5356437	-0.4891809	0.7501279

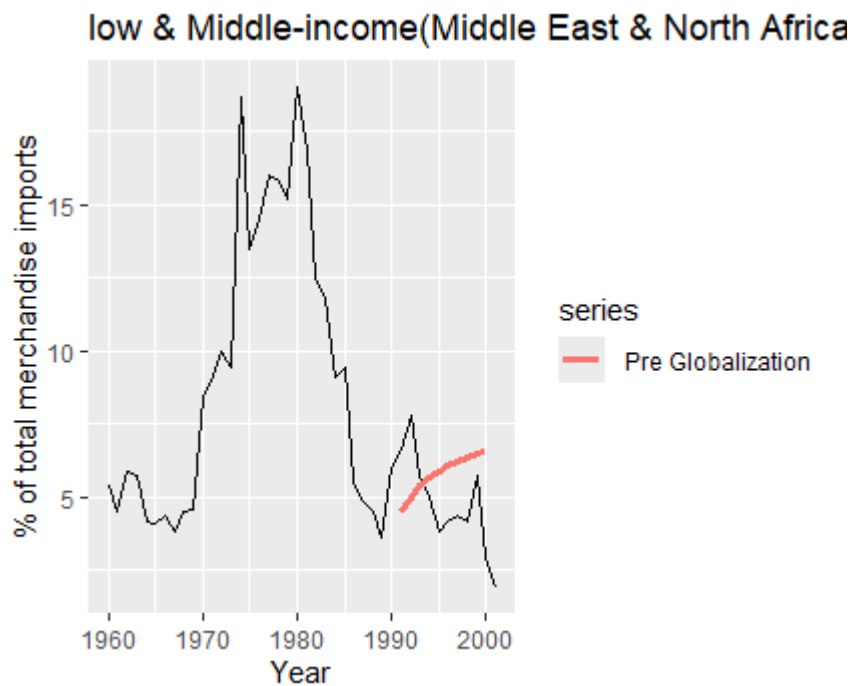
East Asia:



Forecast-pre

```
> forecast_pre
      Point Forecast      Lo 80      Hi 80      Lo 95      Hi 95
1991      4.168715  2.6631965032  5.674233  1.8662232  6.471207
1992      4.212126  2.0830013036  6.341251  0.9559108  7.468341
1993      4.255537  1.6479024289  6.863171  0.2675041  8.243570
1994      4.298948  1.2879109387  7.309985 -0.3060357  8.903931
1995      4.342359  0.9759172062  7.708800 -0.8061693  9.490887
1996      4.385770  0.6980177644  8.073522 -1.2541602 10.025700
1997      4.429181  0.4459533159  8.412408 -1.6626399 10.521001
1998      4.472592  0.2143424718  8.730841 -2.0398385 10.985022
1999      4.516003 -0.0005526935  9.032558 -2.3914727 11.423478
2000      4.559414 -0.2014537409  9.320281 -2.7217047 11.840532
```


Middle east: (Holt model)



Forecast-pre

Forecasts:

	Point	Forecast	Lo 80	Hi 80	Lo 95	Hi 95
1991		4.535277	1.2264097	7.844144	-0.5251988	9.595753
1992		4.998259	1.0040281	8.992489	-1.1103899	11.106907
1993		5.368644	0.3535444	10.383743	-2.3012889	13.038577
1994		5.664952	-0.5490165	11.878921	-3.8384929	15.168397
1995		5.901999	-1.5860329	13.390031	-5.5499575	17.353955
1996		6.091636	-2.6888578	14.872130	-7.3369706	19.520243
1997		6.243346	-3.8173590	16.304051	-9.1431746	21.629867
1998		6.364714	-4.9475260	17.676954	-10.9358641	23.665292
1999		6.461808	-6.0648121	18.988429	-12.6960044	25.619621
2000		6.539484	-7.1604668	20.239434	-14.4127826	27.491750