

	<i>HDI</i>	<i>Unemployment rate</i>	<i>FDI in USD (billion)</i>
HDI	1		
Unemployment rate	-0.949051457	1	
FDI in USD (billion)	0.267413287	-0.425707642	1
Average Income (USD)	0.855485439	-0.713903555	0.582769864
Time Vector	0.985096897	-0.92223309	0.229079766

Average Income (USD) *Time Vector*

1
0.832290329 1

SUMMARY OUTPUT

<i>Regression Statistics</i>	
Multiple R	0.990882282
R Square	0.981847696
Adjusted R Square	0.977007082
Standard Error	0.006152032
Observations	20

ANOVA

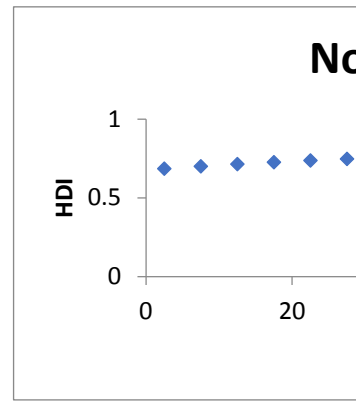
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>
Regression	4	0.030707238	0.007676809	202.8353466
Residual	15	0.000567712	3.78475E-05	
Total	19	0.03127495		

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>
Intercept	0.754992145	0.026214286	28.80079039	1.51822E-14
Unemployment rate	-0.005579069	0.00227504	-2.452295471	0.026919693
FDI in USD (billion)	-2.04988E-13	3.97166E-13	-0.516126329	0.613290364
Average Income (USD)	1.14866E-06	2.34231E-05	0.049039485	0.961534851
Time Vector	0.004838346	0.000718753	6.731586278	6.73236E-06

RESIDUAL OUTPUT

<i>Observation</i>	<i>Predicted HDI</i>	<i>Residuals</i>	<i>Standard Residuals</i>
1	0.688535444	-0.003535444	-0.646780029
2	0.706041865	-0.006041865	-1.105308828
3	0.717081222	-0.003081222	-0.563683923
4	0.72512794	0.00087206	0.159536043
5	0.731475322	0.005524678	1.010693706
6	0.738502003	0.008497997	1.554637634
7	0.744263273	0.009736727	1.781253029
8	0.751197746	0.006802254	1.24441562
9	0.758627593	-0.000627593	-0.114812835
10	0.764378413	-0.002378413	-0.435110848
11	0.775099647	-0.011099647	-2.030587869
12	0.780805963	-0.008805963	-1.610977534
13	0.786268856	-0.004268856	-0.780951576
14	0.792404218	0.002595782	0.474876583
15	0.79861451	-0.00061451	-0.112419512
16	0.804204929	0.001795071	0.328393234
17	0.806817095	0.005182905	0.948169238
18	0.814310726	0.000689274	0.126096942
19	0.820387298	-0.001387298	-0.253794508
20	0.824855935	0.000144065	0.026355433

Nc



Significance F
7.31804E-13

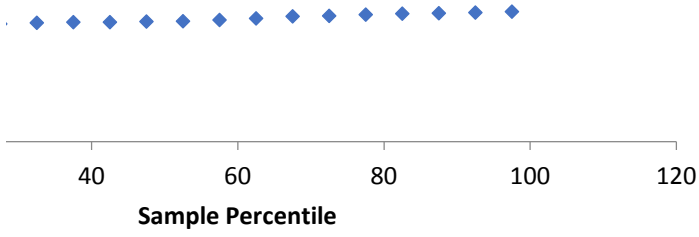
<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95,0%</i>	<i>Upper 95,0%</i>
0.699117717	0.810866572	0.699117717	0.810866572
-0.010428201	-0.000729937	-0.010428201	-0.000729937
-1.05153E-12	6.41552E-13	-1.05153E-12	6.41552E-13
-4.87765E-05	5.10738E-05	-4.87765E-05	5.10738E-05
0.003306361	0.006370331	0.003306361	0.006370331

Removing Average Income.

PROBABILITY OUTPUT

<i>Percentile</i>	<i>HDI</i>
2.5	0.685
7.5	0.7
12.5	0.714
17.5	0.726
22.5	0.737
27.5	0.747
32.5	0.754
37.5	0.758
42.5	0.758
47.5	0.762
52.5	0.764
57.5	0.772
62.5	0.782
67.5	0.795
72.5	0.798
77.5	0.806
82.5	0.812
87.5	0.815
92.5	0.819
97.5	0.825

Normal Probability Plot



Model with three explanatory variables and the time vector:

1) Beginning model

Model	Coefficients ^a		Standard Coefficient Beta
	Unstandardized Coefficients B	Std. Error	

1	(Constant)	,755	,026	
	Unemployment rate	-,006	,002	
	FDI in USD (billion)	-2,050E-13	,000	
	Average Income (USD)	1,149E-6	,000	
	t	,005	,001	

a. Dependent Variable: HDI

2) Model 2 – removing average income

		Coefficients^a		Standardized
		Unstandardized Coefficients		Coefficients
Model		B	Std. Error	Beta
1	(Constant)	,756	,022	
	Unemployment rate	-,006	,002	-,3
	FDI in USD (billion)	-1,940E-13	,000	-,0
	t	,005	,001	,7

a. Dependent Variable: HDI

3) Model 3 – removing FDI

		Coefficients^a		Standardized
		Unstandardized Coefficients		Coefficients
Model		B	Std. Error	Beta
1	(Constant)	,748	,017	
	Unemployment rate	-,005	,002	-,2
	t	,005	,001	,7

a. Dependent Variable: HDI

ized nts	t	Sig.
	00001	001

	28,801	<,001
-,305	-2,452	,027
-,027	-,516	,613
,005	,049	,962
,706	6,732	<,001

d	t	Sig.
	35,083	<,001
08	-2,907	,010
26	-,610	,550
07	7,171	<,001

d	t	Sig.
	44,980	<,001
71	-3,174	,006
35	8,595	<,001

SUMMARY OUTPUT

<i>Regression Statistics</i>	
Multiple R	0.990880813
R Square	0.981844786
Adjusted R Square	0.978440683
Standard Error	0.005957156
Observations	20

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>
Regression	3	0.030707147	0.010235716	288.4298399
Residual	16	0.000567803	3.54877E-05	
Total	19	0.03127495		

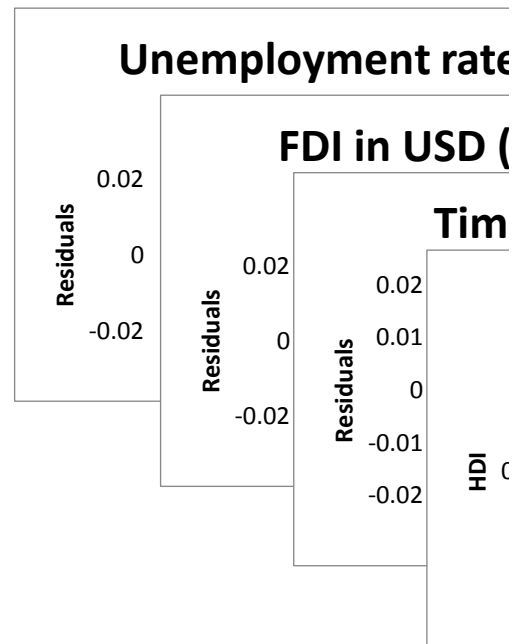
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>
Intercept	0.755672322	0.02153974	35.08270467	1.45273E-16
Unemployment rate	-0.005632175	0.001937397	-2.907083157	0.010288608
FDI in USD (billion)	-1.94036E-13	3.18022E-13	-0.610133024	0.550341997
Time Vector	0.004846761	0.000675856	7.171290887	2.22305E-06

RESIDUAL OUTPUT

<i>Observation</i>	<i>Predicted HDI</i>	<i>Residuals</i>	<i>Standard Residuals</i>
1	0.688442924	-0.003442924	-0.629803769
2	0.706075697	-0.006075697	-1.111409024
3	0.717162156	-0.003162156	-0.57844362
4	0.725127033	0.000872967	0.159689198
5	0.731506299	0.005493701	1.004946146
6	0.738469282	0.008530718	1.560498611
7	0.744248172	0.009751828	1.783872573
8	0.751233666	0.006766334	1.237745212
9	0.758688391	-0.000688391	-0.12592529
10	0.76447916	-0.00247916	-0.453505246
11	0.775042297	-0.011042297	-2.019934152
12	0.78080605	-0.00880605	-1.610864226
13	0.786237791	-0.004237791	-0.775206424
14	0.792297126	0.002702874	0.494428694
15	0.798456905	-0.000456905	-0.083580289
16	0.804177551	0.001822449	0.333375033
17	0.806790199	0.005209801	0.953013295
18	0.814401954	0.000598046	0.109398813
19	0.820428558	-0.001428558	-0.261321901
20	0.824928789	7.12107E-05	0.013026365

Significance F
3.90864E-14

<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95,0%</i>	<i>Upper 95,0%</i>
0.710010114	0.801334531	0.710010114	0.801334531
-0.009739274	-0.001525076	-0.009739274	-0.001525076
-8.68212E-13	4.80141E-13	-8.68212E-13	4.80141E-13
0.00341401	0.006279513	0.00341401	0.006279513



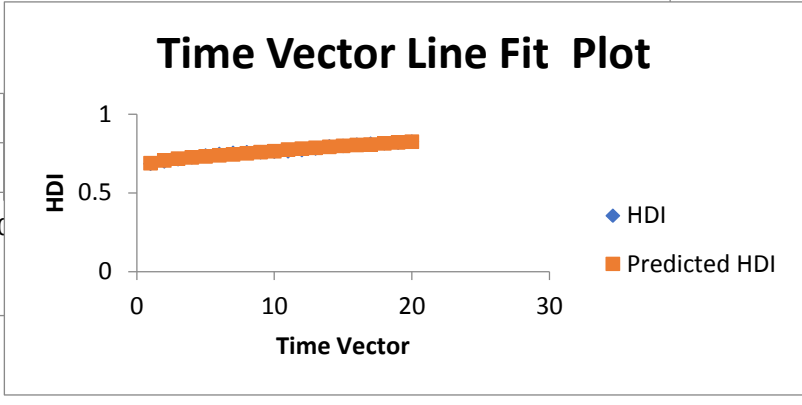
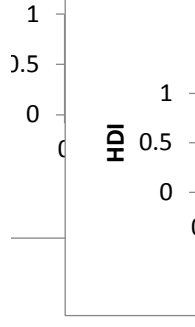
e Residual

(billion) Residual

e Vector Residual Plot

Unemployment rate Line Fit

FDI in USD (billion) Line Fit



SUMMARY OUTPUT

<i>Regression Statistics</i>	
Multiple R	0.990667643
R Square	0.981422379
Adjusted R Square	0.979236777
Standard Error	0.005846136
Observations	20

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>
Regression	2	0.030693936	0.015346968	449.039757
Residual	17	0.000581014	3.41773E-05	
Total	19	0.03127495		

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>
Intercept	0.74755151	0.016619755	44.97969487	4.06073E-19
Unemployment rate	-0.004958641	0.00156246	-3.173611023	0.005553979
Time Vector	0.005039502	0.000586351	8.594685296	1.35669E-07

RESIDUAL OUTPUT

<i>Observation</i>	<i>Predicted HDI</i>	<i>Residuals</i>	<i>Standard Residuals</i>
1	0.689368336	-0.004368336	-0.789949706
2	0.705911885	-0.005911885	-1.069078104
3	0.716405892	-0.002405892	-0.435070507
4	0.724172647	0.001827353	0.33045012
5	0.731096432	0.005903568	1.067573987
6	0.737474767	0.009525233	1.722499222
7	0.744200207	0.009799793	1.772149415
8	0.751867789	0.006132211	1.108920823
9	0.760031235	-0.002031235	-0.367319144
10	0.765467428	-0.003467428	-0.627033698
11	0.77437467	-0.01037467	-1.87610755
12	0.781298455	-0.009298455	-1.681489874
13	0.786833821	-0.004833821	-0.874126003
14	0.792319601	0.002680399	0.484711038
15	0.798053312	-5.33125E-05	-0.009640784
16	0.803737438	0.002262562	0.409151357
17	0.80862818	0.00337182	0.609744362
18	0.813965201	0.001034799	0.187128368
19	0.819252634	-0.000252634	-0.04568525
20	0.824540068	0.000459932	0.083171926

TR^2	5.61
Chi-Square	0.00162776

<i>Significance F</i>
1.93382E-15



<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95,0%</i>	<i>Upper 95,0%</i>
0.712486892	0.782616128	0.712486892	0.782616128
-0.008255144	-0.001662138	-0.008255144	-0.001662138
0.003802409	0.006276594	0.003802409	0.006276594

<i>DW Numerator</i>	<i>DW denominator</i>
	1.90824E-05
2.38255E-06	3.49504E-05
1.2292E-05	5.78832E-06
1.79204E-05	3.33922E-06
1.66155E-05	3.48521E-05
1.31165E-05	9.07301E-05
7.53833E-08	9.60359E-05
1.34512E-05	3.7604E-05
6.66418E-05	4.12591E-06
2.06265E-06	1.20231E-05
4.771E-05	0.000107634
1.15824E-06	8.64613E-05
1.9933E-05	2.33658E-05
5.64635E-05	7.18454E-06
0.000357473	2.84222E-09
5.36328E-06	5.11919E-06
1.23045E-06	1.13692E-05
5.46166E-06	1.07081E-06
1.65749E-06	6.38242E-08
5.0775E-07	2.11537E-07
0.000641516	0.000581014

PROBABILITY OUTPUT

Variable	Alfa	Sign
x1	0.05	<

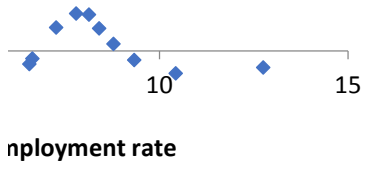
<i>Percentile</i>	<i>HDI</i>
2.5	0.685
7.5	0.7
12.5	0.714
17.5	0.726
22.5	0.737
27.5	0.747
32.5	0.754
37.5	0.758
42.5	0.758
47.5	0.762
52.5	0.764
57.5	0.772
62.5	0.782
67.5	0.795
72.5	0.798
77.5	0.806
82.5	0.812
87.5	0.815
92.5	0.819
97.5	0.825

DW Test	1.104132174
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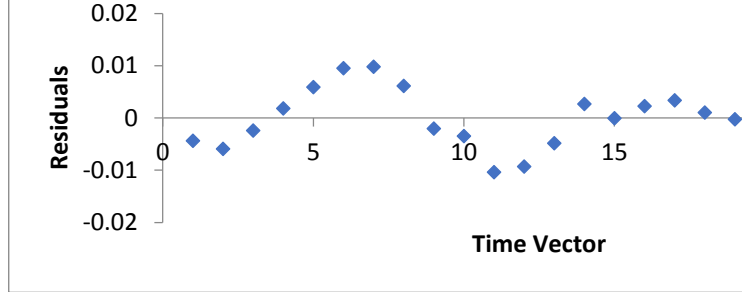
<i>Rounded and</i>		
<i>Sorted</i>		
<i>St.Residuals</i>	<i>Sorted</i>	<i>Frequency</i>

-0.8	-1.9	1
-1.1	-1.7	1
-0.4	-1.1	1
0.3	-0.9	1
1.1	-0.8	1
1.7	-0.6	1
1.8	-0.4	1
1.1	-0.4	1
-0.4	0	1
-0.6	0	1
-1.9	0.1	1
-1.7	0.2	1
-0.9	0.3	1
0.5	0.4	1
0	0.5	1
0.4	0.6	1
0.6	1.1	1
0.2	1.1	1
0	1.7	1
0.1	1.8	1

Unemployment rate Residual Plot

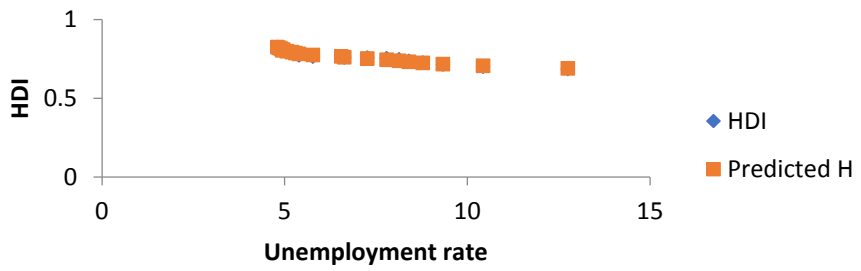


Time Vector Residual Plot

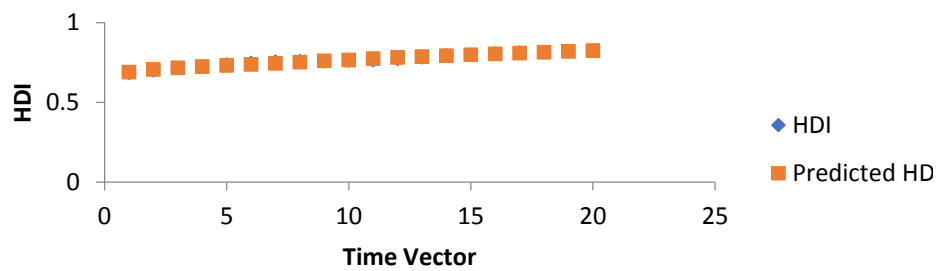


P - value	Accept/Reject
0.005	Reject

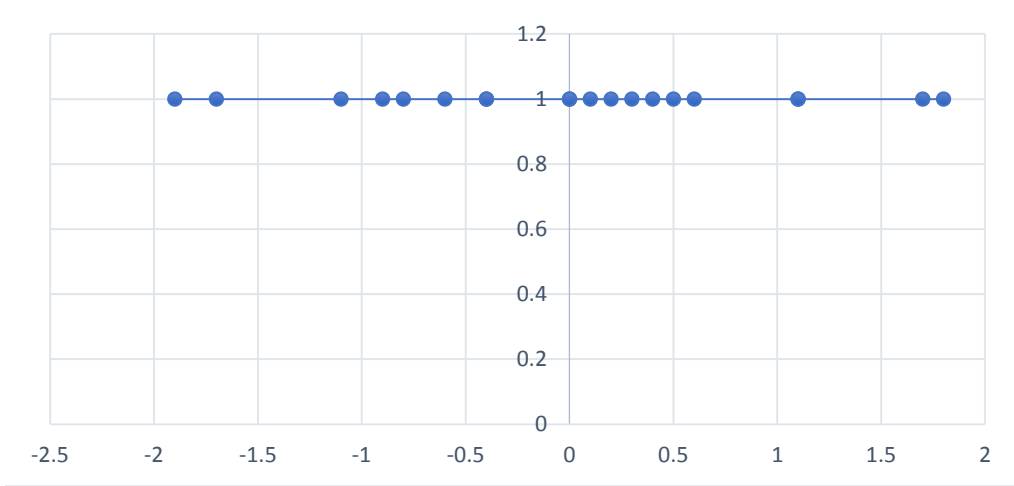
Unemployment rate Line Fit Plot

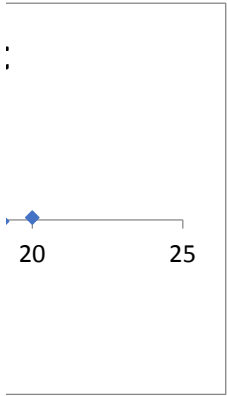


Time Vector Line Fit Plot



Název grafu





IDI

DI

Kazakhstan

Year	HDI	Unemployment rate	Time Vector	Average Income (USD)	FDI in USD (billion)
2000	0.685	12.75	1	103.6231884	1370521199
2001	0.7	10.43	2	122	2816823050
2002	0.714	9.33	3	137	2588491060
2003	0.726	8.78	4	240	2483253230
2004	0.737	8.4	5	267	5615262947
2005	0.747	8.13	6	313	2546065710
2006	0.754	7.79	7	369	7611168450
2007	0.758	7.26	8	398	11972842989
2008	0.758	6.63	9	459	16818890680
2009	0.762	6.55	10	411	14275888207
2010	0.764	5.77	11	527	7456117901
2011	0.772	5.39	12	562	13760291529
2012	0.782	5.29	13	600	13648134374
2013	0.795	5.2	14	643	10011293285
2014	0.798	5.06	15	675	7308112644
2015	0.806	4.93	16	568	6577824050
2016	0.812	4.96	17	675	17220962548
2017	0.815	4.9	18	463	4712631471
2018	0.819	4.85	19	472	83409074.56
2019	0.825	4.8	20	485	3320645021

Source UNDP WorldBank

Worldbank

HDI

Mean	0.76645
Standard Error	0.009072073
Median	0.763
Mode	0.758
Standard Deviation	0.040571542
Sample Variance	0.00164605
Kurtosis	-0.657512729
Skewness	-0.35475928
Range	0.14
Minimum	0.685
Maximum	0.825
Sum	15.329
Count	20

<i>Unemployment rate</i>		<i>FDI in USD (billion)</i>		<i>Average Income (USD)</i>	
Mean	6.86	Mean	7609931471	Mean	
Standard Error	0.496441018	Standard Error	1201254074	Standard Error	
Median	6.16	Median	6942968347	Median	
Mode	#N/A	Mode	#N/A	Mode	
Standard Deviation	2.220151725	Standard Deviation	5372171534	Standard Deviation	
Sample Variance	4.929073684	Sample Variance	2.88602E+19	Sample Variance	
Kurtosis	1.016049099	Kurtosis	-1.065890576	Kurtosis	
Skewness	1.182717001	Skewness	0.464600031	Skewness	
Range	7.95	Range	17137553473	Range	
Minimum	4.8	Minimum	83409074.56	Minimum	
Maximum	12.75	Maximum	17220962548	Maximum	
Sum	137.2	Sum	1.52199E+11	Sum	
Count	20	Count	20	Count	

Time Vector

424.4811594	Mean	10.5
40.22975696	Standard Error	1.322875656
461	Median	10.5
675	Mode	#N/A
179.9129426	Standard Deviation	5.916079783
32368.6669	Sample Variance	35
-0.797876198	Kurtosis	-1.2
-0.420555936	Skewness	0
571.3768116	Range	19
103.6231884	Minimum	1
675	Maximum	20
8489.623188	Sum	210
20	Count	20
