

čtvrtletí	pořadí	realinvs	$\ln(y_t)$	$\ln(t)$	$\ln^2(t)$	$\ln(t) \cdot \ln(y_t)$
1986Q1	1	886.2	6.78694	0.00000	0.00000	0.00000
1986Q2	2	868.3	6.76654	0.69315	0.48045	4.69021
1986Q3	3	838	6.73102	1.09861	1.20695	7.39478
1986Q4	4	838.2	6.73126	1.38629	1.92181	9.33150
1987Q1	5	863.4	6.76088	1.60944	2.59029	10.88121
1987Q2	6	863.9	6.76146	1.79176	3.21040	12.11490
1987Q3	7	860.5	6.75751	1.94591	3.78657	13.14951
1987Q4	8	929.3	6.83443	2.07944	4.32408	14.21180
1988Q1	9	884.6	6.78514	2.19722	4.82780	14.90847
1988Q2	10	902.5	6.80517	2.30259	5.30190	15.66948
1988Q3	11	907.5	6.81069	2.39790	5.74990	16.33133
1988Q4	12	916.7	6.82078	2.48491	6.17476	16.94900
1989Q1	13	952.7	6.85930	2.56495	6.57897	17.59376
1989Q2	14	941.1	6.84705	2.63906	6.96462	18.06976
1989Q3	15	929.3	6.83443	2.70805	7.33354	18.50798
1989Q4	16	922.9	6.82752	2.77259	7.68725	18.92991
1990Q1	17	934	6.83948	2.83321	8.02710	19.37770
1990Q2	18	933	6.83841	2.89037	8.35425	19.76553
1990Q3	19	912.6	6.81630	2.94444	8.66972	20.07017
1990Q4	20	849.6	6.74477	2.99573	8.97441	20.20551
1991Q1	21	815.1	6.70331	3.04452	9.26912	20.40838
1991Q2	22	808.8	6.69555	3.09104	9.55454	20.69623
1991Q3	23	829.8	6.72118	3.13549	9.83132	21.07424
1991Q4	24	864.2	6.76180	3.17805	10.10003	21.48938
1992Q1	25	843.8	6.73792	3.21888	10.36116	21.68851
1992Q2	26	901.8	6.80439	3.25810	10.61519	22.16937
1992Q3	27	912.1	6.81575	3.29584	10.86254	22.46360
1992Q4	28	941.6	6.84758	3.33220	11.10359	22.81754
1993Q1	29	964.8	6.87192	3.36730	11.33868	23.13979
1993Q2	30	967	6.87420	3.40120	11.56814	23.38051
1993Q3	31	964.1	6.87120	3.43399	11.79227	23.59560
1993Q4	32	1015.6	6.92323	3.46574	12.01133	23.99410
1994Q1	33	1057.3	6.96347	3.49651	12.22557	24.34784
1994Q2	34	1118.5	7.01974	3.52636	12.43522	24.75415
1994Q3	35	1101.8	7.00470	3.55535	12.64050	24.90415
1994Q4	36	1150.5	7.04795	3.58352	12.84161	25.25647
1995Q1	37	1162.4	7.05824	3.61092	13.03873	25.48673
1995Q2	38	1128.5	7.02864	3.63759	13.23203	25.56730
1995Q3	39	1119.1	7.02028	3.66356	13.42168	25.71923
1995Q4	40	1152.4	7.04960	3.68888	13.60783	26.00513
1996Q1	41	1172.3	7.06672	3.71357	13.79062	26.24278
1996Q2	42	1233.4	7.11753	3.73767	13.97017	26.60298
1996Q3	43	1281.4	7.15571	3.76120	14.14663	26.91405
1996Q4	44	1283.7	7.15750	3.78419	14.32009	27.08534

1997Q1	45	1325.4	7.18947	3.80666	14.49068	27.36788
1997Q2	46	1400.6	7.24466	3.82864	14.65849	27.73719
1997Q3	47	1408.6	7.25035	3.85015	14.82364	27.91492
1997Q4	48	1438.5	7.27136	3.87120	14.98620	28.14888
1998Q1	49	1543.3	7.34168	3.89182	15.14627	28.57249
1998Q2	50	1516.8	7.32436	3.91202	15.30392	28.65306
1998Q3	51	1559.7	7.35225	3.93183	15.45925	28.90776
1998Q4	52	1612.1	7.38529	3.95124	15.61233	29.18109
1999Q1	53	1641.8	7.40355	3.97029	15.76322	29.39425
1999Q2	54	1617.4	7.38858	3.98898	15.91199	29.47291
1999Q3	55	1655.8	7.41204	4.00733	16.05872	29.70251
1999Q4	56	1725.4	7.45321	4.02535	16.20346	30.00181
2000Q1	57	1722.9	7.45176	4.04305	16.34626	30.12786
2000Q2	58	1801.6	7.49643	4.06044	16.48720	30.43883
2000Q3	59	1788.8	7.48930	4.07754	16.62631	30.53790
2000Q4	60	1778.3	7.48341	4.09434	16.76366	30.63967
sumace	1653	62892.6	397.7457541	176.3958484	591.007775	1239.13854

$$X'X = \begin{bmatrix} 57 & 176.3958484 \\ 176.39585 & 591.0077751 \end{bmatrix}$$

$$\det(X'X) = 2571.9478$$

$$(X'X)^{-1} = \begin{bmatrix} 0.22979 & -0.06858454 \\ -0.068585 & 0.022162191 \end{bmatrix}$$

$$X'y = \begin{bmatrix} 397.74575 \\ 1239.1385 \end{bmatrix}$$

$$\begin{bmatrix} b_1 \\ b_2 \end{bmatrix} = \begin{bmatrix} 6.412237 \\ 0.1828175 \end{bmatrix} \quad \exp(b_1) = 609.2550544$$

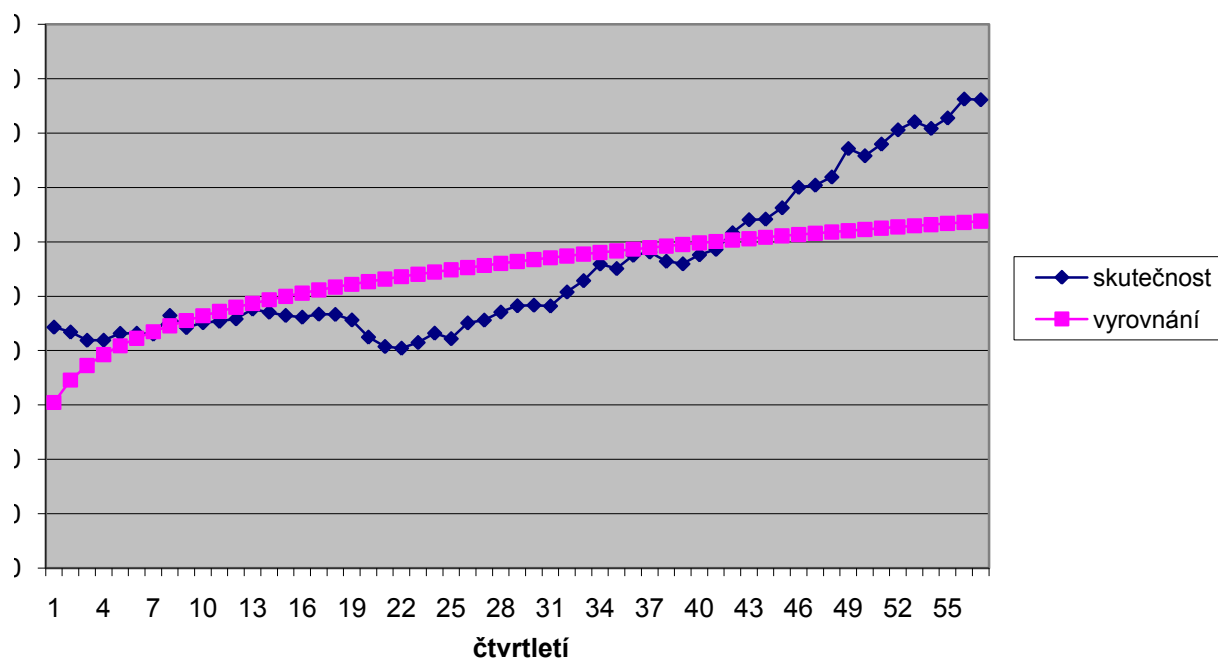
skutečnost	vyrovnání	rezidua	abs.rezidua	rezidua^2	APE	MAPE
886.2	609.3	276.9	277	76699	0.3125	0.370382
868.3	691.6	176.7	177	31235	0.2035	0.226604
838	744.8	93.2	93	8691	0.1112	0.117799
838.2	785.0	53.2	53	2831	0.0635	0.065557
863.4	817.7	45.7	46	2090	0.0530	0.054394
863.9	845.4	18.5	19	342	0.0214	0.021654
860.5	869.6	-9.1	9	82	0.0105	0.01047
929.3	891.0	38.3	38	1463	0.0412	0.04203
884.6	910.4	-25.8	26	668	0.0292	0.028791
902.5	928.1	-25.6	26	658	0.0284	0.028019
907.5	944.5	-37.0	37	1366	0.0407	0.039915
916.7	959.6	-42.9	43	1841	0.0468	0.045733
952.7	973.7	-21.0	21	443	0.0221	0.021854
941.1	987.0	-45.9	46	2110	0.0488	0.047644
929.3	999.6	-70.3	70	4937	0.0756	0.072852
922.9	1011.4	-88.5	89	7837	0.0959	0.09153
934	1022.7	-88.7	89	7867	0.0950	0.090659
933	1033.4	-100.4	100	10088	0.1077	0.102153
912.6	1043.7	-131.1	131	17188	0.1437	0.134033
849.6	1053.5	-203.9	204	41591	0.2400	0.214318
815.1	1063.0	-247.9	248	61443	0.3041	0.263969
808.8	1072.1	-263.3	263	69304	0.3255	0.279932
829.8	1080.8	-251.0	251	63003	0.3025	0.262748
864.2	1089.2	-225.0	225	50646	0.2604	0.230409
843.8	1097.4	-253.6	254	64316	0.3006	0.261286
901.8	1105.3	-203.5	204	41413	0.2257	0.202782
912.1	1113.0	-200.9	201	40343	0.2202	0.19837
941.6	1120.4	-178.8	179	31962	0.1899	0.173405
964.8	1127.6	-162.8	163	26500	0.1687	0.155602
967	1134.6	-167.6	168	28090	0.1733	0.159497
964.1	1141.4	-177.3	177	31443	0.1839	0.168435
1015.6	1148.1	-132.5	132	17547	0.1304	0.122446
1057.3	1154.5	-97.2	97	9456	0.0920	0.087929
1118.5	1160.9	-42.4	42	1794	0.0379	0.037169
1101.8	1167.0	-65.2	65	4255	0.0592	0.0575
1150.5	1173.1	-22.6	23	509	0.0196	0.019414
1162.4	1178.9	-16.5	17	274	0.0142	0.014134
1128.5	1184.7	-56.2	56	3159	0.0498	0.048597
1119.1	1190.3	-71.2	71	5076	0.0637	0.0617
1152.4	1195.9	-43.5	43	1890	0.0377	0.037022
1172.3	1201.3	-29.0	29	840	0.0247	0.024419
1233.4	1206.6	26.8	27	719	0.0217	0.021981
1281.4	1211.8	69.6	70	4846	0.0543	0.055844
1283.7	1216.9	66.8	67	4464	0.0520	0.053436

200C
180C
160C
140C
120C
100C
80C
60C
40C
20C
C

1325.4	1221.9	103.5	104	10712	0.0781	0.081263
1400.6	1226.8	173.8	174	30200	0.1241	0.132283
1408.6	1231.7	176.9	177	31311	0.1256	0.134039
1438.5	1236.4	202.1	202	40844	0.1405	0.151107
1543.3	1241.1	302.2	302	91343	0.1958	0.21709
1516.8	1245.7	271.1	271	73515	0.1788	0.196301
1559.7	1250.2	309.5	310	95802	0.1984	0.220308
1612.1	1254.6	357.5	357	127787	0.2217	0.249395
1641.8	1259.0	382.8	383	146533	0.2332	0.263924
1617.4	1263.3	354.1	354	125378	0.2189	0.245833
1655.8	1267.6	388.2	388	150732	0.2345	0.265614
1725.4	1271.7	453.7	454	205807	0.2629	0.302728
1722.9	1275.9	447.0	447	199843	0.2595	0.298148
1801.6	1279.9	521.7	522	272145	0.2896	0.338582
1788.8	1283.9	504.9	505	254892	0.2822	0.328612
1778.3	1287.9	490.4	490	240509	0.2758	0.319888
62892.6	61902.5476	990.1	8586.64	2.11312E+06	0.13289	0.13303

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vyrovnání mocninným trendem



]

čtvrtletí	pořadí	realinvs	t^2	t^3	t^4	t^*y_t
1986Q1	1	886.2	1	1	1	886.2
1986Q2	2	868.3	4	8	16	1736.6
1986Q3	3	838	9	27	81	2514
1986Q4	4	838.2	16	64	256	3352.8
1987Q1	5	863.4	25	125	625	4317
1987Q2	6	863.9	36	216	1296	5183.4
1987Q3	7	860.5	49	343	2401	6023.5
1987Q4	8	929.3	64	512	4096	7434.4
1988Q1	9	884.6	81	729	6561	7961.4
1988Q2	10	902.5	100	1000	10000	9025
1988Q3	11	907.5	121	1331	14641	9982.5
1988Q4	12	916.7	144	1728	20736	11000.4
1989Q1	13	952.7	169	2197	28561	12385.1
1989Q2	14	941.1	196	2744	38416	13175.4
1989Q3	15	929.3	225	3375	50625	13939.5
1989Q4	16	922.9	256	4096	65536	14766.4
1990Q1	17	934	289	4913	83521	15878
1990Q2	18	933	324	5832	104976	16794
1990Q3	19	912.6	361	6859	130321	17339.4
1990Q4	20	849.6	400	8000	160000	16992
1991Q1	21	815.1	441	9261	194481	17117.1
1991Q2	22	808.8	484	10648	234256	17793.6
1991Q3	23	829.8	529	12167	279841	19085.4
1991Q4	24	864.2	576	13824	331776	20740.8
1992Q1	25	843.8	625	15625	390625	21095
1992Q2	26	901.8	676	17576	456976	23446.8
1992Q3	27	912.1	729	19683	531441	24626.7
1992Q4	28	941.6	784	21952	614656	26364.8
1993Q1	29	964.8	841	24389	707281	27979.2
1993Q2	30	967	900	27000	810000	29010
1993Q3	31	964.1	961	29791	923521	29887.1
1993Q4	32	1015.6	1024	32768	1048576	32499.2
1994Q1	33	1057.3	1089	35937	1185921	34890.9
1994Q2	34	1118.5	1156	39304	1336336	38029
1994Q3	35	1101.8	1225	42875	1500625	38563
1994Q4	36	1150.5	1296	46656	1679616	41418
1995Q1	37	1162.4	1369	50653	1874161	43008.8
1995Q2	38	1128.5	1444	54872	2085136	42883
1995Q3	39	1119.1	1521	59319	2313441	43644.9
1995Q4	40	1152.4	1600	64000	2560000	46096
1996Q1	41	1172.3	1681	68921	2825761	48064.3
1996Q2	42	1233.4	1764	74088	3111696	51802.8
1996Q3	43	1281.4	1849	79507	3418801	55100.2
1996Q4	44	1283.7	1936	85184	3748096	56482.8

1997Q1	45	1325.4	2025	91125	4100625	59643
1997Q2	46	1400.6	2116	97336	4477456	64427.6
1997Q3	47	1408.6	2209	103823	4879681	66204.2
1997Q4	48	1438.5	2304	110592	5308416	69048
1998Q1	49	1543.3	2401	117649	5764801	75621.7
1998Q2	50	1516.8	2500	125000	6250000	75840
1998Q3	51	1559.7	2601	132651	6765201	79544.7
1998Q4	52	1612.1	2704	140608	7311616	83829.2
1999Q1	53	1641.8	2809	148877	7890481	87015.4
1999Q2	54	1617.4	2916	157464	8503056	87339.6
1999Q3	55	1655.8	3025	166375	9150625	91069
1999Q4	56	1725.4	3136	175616	9834496	96622.4
2000Q1	57	1722.9	3249	185193	10556001	98205.3
2000Q2	58	1801.6	3364	195112	11316496	104492.8
2000Q3	59	1788.8	3481	205379	12117361	105539.2
2000Q4	60	1778.3	3600	216000	12960000	106698
sumace	1653	62892.6	63365	2732409	125678141	2054726.5

$X'X =$

$\text{adj}(X'X) =$

$\det(X'X) =$

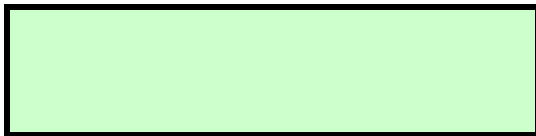
$(X'X)^{-1} =$

$X'y =$

b0	814.649	spočteno GRETlem
b1	23.183	spočteno GRETlem
b2	-2.01579	spočteno GRETlem
b3	0.062113	spočteno GRETlem
b4	-0.000508053	spočteno GRETlem

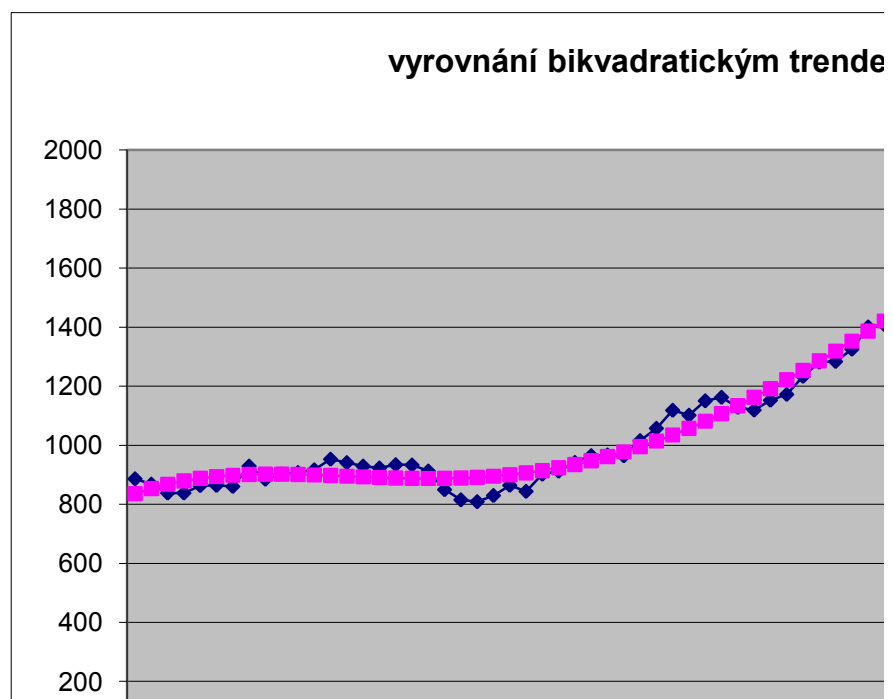
$t^2 \cdot y_t$	skutečnost	vyrovnání	rezidua	abs.rezidua	rezidua ²
886.2	886.2	835.9	50.3	50.322	2532.322
3473.2	868.3	853.4	14.9	14.859	220.801
7542	838	867.7	-29.7	29.692	881.602
13411.2	838.2	879.0	-40.8	40.774	1662.481
21585	863.4	887.6	-24.2	24.216	586.407
31100.4	863.9	893.9	-30.0	30.037	902.193
42164.5	860.5	898.2	-37.7	37.741	1424.399
59475.2	929.3	900.8	28.5	28.477	810.922
71652.6	884.6	902.0	-17.4	17.364	301.510
90250	902.5	901.9	0.6	0.568	0.322
109807.5	907.5	901.0	6.5	6.515	42.440
132004.8	916.7	899.4	17.3	17.332	300.415
161006.3	952.7	897.3	55.4	55.389	3067.914
184455.6	941.1	895.0	46.1	46.063	2121.812
209092.5	929.3	892.8	36.5	36.548	1335.724
236262.4	922.9	890.7	32.2	32.246	1039.814
269926	934	888.9	45.1	45.075	2031.777
302292	933	887.7	45.3	45.263	2048.768
329448.6	912.6	887.2	25.4	25.351	642.678
339840	849.6	887.6	-38.0	38.009	1444.648
359459.1	815.1	889.0	-73.9	73.850	5453.889
391459.2	808.8	891.4	-82.6	82.597	6822.331
438964.2	829.8	895.1	-65.3	65.260	4258.855
497779.2	864.2	900.0	-35.8	35.836	1284.239
527375	843.8	906.4	-62.6	62.613	3920.347
609616.8	901.8	914.3	-12.5	12.463	155.327
664920.9	912.1	923.6	-11.5	11.549	133.381
738214.4	941.6	934.6	7.0	6.980	48.715
811396.8	964.8	947.2	17.6	17.586	309.256
870300	967	961.5	5.5	5.544	30.735
926500.1	964.1	977.4	-13.3	13.259	175.790
1039974.4	1015.6	994.9	20.7	20.677	427.553
1151399.7	1057.3	1014.1	43.2	43.163	1863.058
1292986	1118.5	1035.0	83.5	83.522	6975.992
1349705	1101.8	1057.4	44.4	44.391	1970.553
1491048	1150.5	1081.4	69.1	69.117	4777.113
1591325.6	1162.4	1106.8	55.6	55.560	3086.896
1629554	1128.5	1133.7	-5.2	5.207	27.115
1702151.1	1119.1	1161.9	-42.8	42.800	1831.824
1843840	1152.4	1191.3	-38.9	38.921	1514.869
1970636.3	1172.3	1221.9	-49.6	49.563	2456.464
2175717.6	1233.4	1253.4	-20.0	20.003	400.116
2369308.6	1281.4	1285.8	-4.4	4.408	19.435
2485243.2	1283.7	1318.9	-35.2	35.234	1241.430

2683935	1325.4	1352.6	-27.2	27.222	741.012
2963669.6	1400.6	1386.7	13.9	13.899	193.172
3111597.4	1408.6	1421.0	-12.4	12.391	153.545
3314304	1438.5	1455.3	-16.8	16.797	282.141
3705463.3	1543.3	1489.4	53.9	53.888	2903.905
3792000	1516.8	1523.1	-6.3	6.318	39.914
4056779.7	1559.7	1556.2	3.5	3.517	12.369
4359118.4	1612.1	1588.4	23.7	23.735	563.345
4611816.2	1641.8	1619.4	22.4	22.392	501.382
4716338.4	1617.4	1649.0	-31.6	31.646	1001.449
5008795	1655.8	1677.0	-21.2	21.197	449.319
5410854.4	1725.4	1703.0	22.4	22.429	503.061
5597702.1	1722.9	1726.7	-3.8	3.763	14.161
104492.8	1801.6	1747.8	53.8	53.843	2899.031
105539.2	1788.8	1765.9	22.9	22.875	523.255
106698	1778.3	1780.8	-2.5	2.526	6.381
84876924.7	62892.6	62892.9223	-0.32229753	1781.1353	7.9943E+04

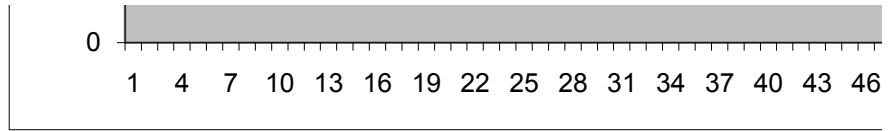


THEILovoU 0.08414

APE	MAPE
0.057	0.058
0.017	0.017
0.035	0.035
0.049	0.047
0.028	0.028
0.035	0.034
0.044	0.043
0.031	0.031
0.020	0.019
0.001	0.001
0.007	0.007
0.019	0.019
0.058	0.060
0.049	0.050
0.039	0.040
0.035	0.036
0.048	0.049
0.049	0.050
0.028	0.028
0.045	0.044
0.091	0.087
0.102	0.097
0.079	0.076
0.041	0.041
0.074	0.072
0.014	0.014
0.013	0.013
0.007	0.007
0.018	0.018
0.006	0.006
0.014	0.014
0.020	0.021
0.041	0.042
0.075	0.078
0.040	0.041
0.060	0.062
0.048	0.049
0.005	0.005
0.038	0.038
0.034	0.033
0.042	0.041
0.016	0.016
0.003	0.003
0.027	0.027



0.021	0.020
0.010	0.010
0.009	0.009
0.012	0.012
0.035	0.036
0.004	0.004
0.002	0.002
0.015	0.015
0.014	0.014
0.020	0.019
0.013	0.013
0.013	0.013
0.002	0.002
0.030	0.030
0.013	0.013
0.001	0.001
0.031038	0.030948



em



—◆— skutečnost
—■— vyrovnání



49 52 55

čtvrtletí	pořadí	realinvs	t^2	t^3	t^4	t^*y_t
1986Q1	1	886.2	1	1	1	886.2
1986Q2	2	868.3	4	8	16	1736.6
1986Q3	3	838	9	27	81	2514
1986Q4	4	838.2	16	64	256	3352.8
1987Q1	5	863.4	25	125	625	4317
1987Q2	6	863.9	36	216	1296	5183.4
1987Q3	7	860.5	49	343	2401	6023.5
1987Q4	8	929.3	64	512	4096	7434.4
1988Q1	9	884.6	81	729	6561	7961.4
1988Q2	10	902.5	100	1000	10000	9025
1988Q3	11	907.5	121	1331	14641	9982.5
1988Q4	12	916.7	144	1728	20736	11000.4
1989Q1	13	952.7	169	2197	28561	12385.1
1989Q2	14	941.1	196	2744	38416	13175.4
1989Q3	15	929.3	225	3375	50625	13939.5
1989Q4	16	922.9	256	4096	65536	14766.4
1990Q1	17	934	289	4913	83521	15878
1990Q2	18	933	324	5832	104976	16794
1990Q3	19	912.6	361	6859	130321	17339.4
1990Q4	20	849.6	400	8000	160000	16992
1991Q1	21	815.1	441	9261	194481	17117.1
1991Q2	22	808.8	484	10648	234256	17793.6
1991Q3	23	829.8	529	12167	279841	19085.4
1991Q4	24	864.2	576	13824	331776	20740.8
1992Q1	25	843.8	625	15625	390625	21095
1992Q2	26	901.8	676	17576	456976	23446.8
1992Q3	27	912.1	729	19683	531441	24626.7
1992Q4	28	941.6	784	21952	614656	26364.8
1993Q1	29	964.8	841	24389	707281	27979.2
1993Q2	30	967	900	27000	810000	29010
1993Q3	31	964.1	961	29791	923521	29887.1
1993Q4	32	1015.6	1024	32768	1048576	32499.2
1994Q1	33	1057.3	1089	35937	1185921	34890.9
1994Q2	34	1118.5	1156	39304	1336336	38029
1994Q3	35	1101.8	1225	42875	1500625	38563
1994Q4	36	1150.5	1296	46656	1679616	41418
1995Q1	37	1162.4	1369	50653	1874161	43008.8
1995Q2	38	1128.5	1444	54872	2085136	42883
1995Q3	39	1119.1	1521	59319	2313441	43644.9
1995Q4	40	1152.4	1600	64000	2560000	46096
1996Q1	41	1172.3	1681	68921	2825761	48064.3
1996Q2	42	1233.4	1764	74088	3111696	51802.8
1996Q3	43	1281.4	1849	79507	3418801	55100.2

1996Q4	44	1283.7	1936	85184	3748096	56482.8
1997Q1	45	1325.4	2025	91125	4100625	59643
1997Q2	46	1400.6	2116	97336	4477456	64427.6
1997Q3	47	1408.6	2209	103823	4879681	66204.2
1997Q4	48	1438.5	2304	110592	5308416	69048
1998Q1	49	1543.3	2401	117649	5764801	75621.7
1998Q2	50	1516.8	2500	125000	6250000	75840
1998Q3	51	1559.7	2601	132651	6765201	79544.7
1998Q4	52	1612.1	2704	140608	7311616	83829.2
1999Q1	53	1641.8	2809	148877	7890481	87015.4
1999Q2	54	1617.4	2916	157464	8503056	87339.6
1999Q3	55	1655.8	3025	166375	9150625	91069
1999Q4	56	1725.4	3136	175616	9834496	96622.4
2000Q1	57	1722.9	3249	185193	10556001	98205.3
2000Q2	58	1801.6	3364	195112	11316496	
2000Q3	59	1788.8	3481	205379	12117361	
2000Q4	60	1778.3	3600	216000	12960000	
sumace	1653	62892.6	63365	2732409	125678141	2054726.5

$X'X =$

$adj(X'X) =$

$\det(X'X)$

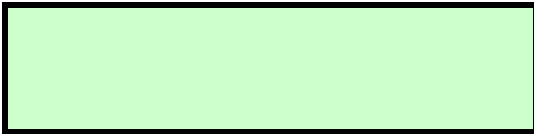
$(X'X)^{-1}$

$X'y =$

b1	905.551	spočteno GRETlem
b2	-5.89263	spočteno GRETlem
b3	0.194601	spočteno GRETlem
b4	0.00317882	spočteno GRETlem

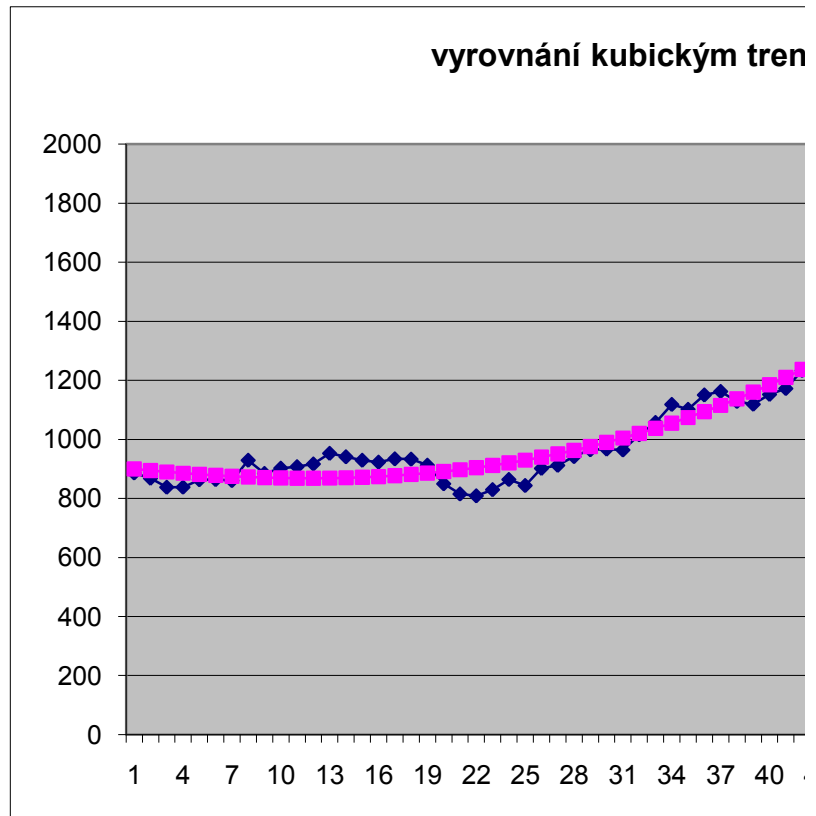
$t^2 \cdot y_t$	skutečnost	vyrovnání	rezidua	abs.rezidua	rezidua ²
886.2	886.2	899.9	-13.656	13.656	186.490
3473.2	868.3	894.6	-26.270	26.270	690.091
7542	838	889.7	-51.710	51.710	2673.960
13411.2	838.2	885.3	-47.098	47.098	2218.178
21585	863.4	881.4	-17.950	17.950	322.211
31100.4	863.9	877.9	-13.987	13.987	195.650
42164.5	860.5	874.9	-14.428	14.428	208.178
59475.2	929.3	872.5	56.808	56.808	3227.151
71652.6	884.6	870.6	14.003	14.003	196.074
90250	902.5	869.3	33.236	33.236	1104.657
109807.5	907.5	868.5	38.990	38.990	1520.236
132004.8	916.7	868.4	48.345	48.345	2337.240
161006.3	952.7	868.8	83.882	83.882	7036.149
184455.6	941.1	869.9	71.181	71.181	5066.783
209092.5	929.3	871.7	57.625	57.625	3320.607
236262.4	922.9	874.1	48.793	48.793	2380.735
269926	934	877.2	56.766	56.766	3222.433
302292	933	881.1	51.927	51.927	2696.386
329448.6	912.6	885.6	26.954	26.954	726.544
339840	849.6	891.0	-41.369	41.369	1711.424
359459.1	815.1	897.1	-81.964	81.964	6718.075
391459.2	808.8	903.9	-95.148	95.148	9053.161
438964.2	829.8	911.6	-81.841	81.841	6697.973
497779.2	864.2	920.2	-55.962	55.962	3131.753
527375	843.8	929.5	-85.730	85.730	7349.622
609616.8	901.8	939.8	-37.964	37.964	1441.253
664920.9	912.1	950.9	-38.783	38.783	1504.108
738214.4	941.6	962.9	-21.306	21.306	453.946
811396.8	964.8	975.9	-11.052	11.052	122.156
870300	967	989.7	-22.741	22.741	517.159
926500.1	964.1	1004.6	-40.491	40.491	1639.542
1039974.4	1015.6	1020.4	-4.822	4.822	23.250
1151399.7	1057.3	1037.3	20.048	20.048	401.924
1292986	1118.5	1055.1	63.399	63.399	4019.474
1349705	1101.8	1074.0	27.813	27.813	773.558
1491048	1150.5	1093.9	56.570	56.570	3200.138
1591325.6	1162.4	1114.9	47.451	47.451	2251.576
1629554	1128.5	1137.1	-8.563	8.563	73.327
1702151.1	1119.1	1160.3	-41.191	41.191	1696.696
1843840	1152.4	1184.7	-32.252	32.252	1040.184
1970636.3	1172.3	1210.2	-37.865	37.865	1433.751
2175717.6	1233.4	1236.8	-3.449	3.449	11.896
2369308.6	1281.4	1264.7	16.676	16.676	278.102

2485243.2	1283.7	1293.8	-10.107	10.107	102.160
2683935	1325.4	1324.1	1.280	1.280	1.639
2963669.6	1400.6	1355.7	44.921	44.921	2017.864
3111597.4	1408.6	1388.5	20.094	20.094	403.784
3314304	1438.5	1422.6	15.882	15.882	252.253
3705463.3	1543.3	1458.0	85.266	85.266	7270.269
3792000	1516.8	1494.8	22.026	22.026	485.123
4056779.7	1559.7	1532.9	26.842	26.842	720.508
4359118.4	1612.1	1572.3	39.797	39.797	1583.812
4611816.2	1641.8	1613.1	28.671	28.671	822.026
4716338.4	1617.4	1655.4	-37.955	37.955	1440.598
5008795	1655.8	1699.0	-43.201	43.201	1866.288
5410854.4	1725.4	1744.1	-18.684	18.684	349.096
5597702.1	1722.9	1790.6	-67.725	67.725	4586.669
104492.8	1801.6	1838.6	-37.042	37.042	1372.121
105539.2	1788.8	1888.2	-99.355	99.355	9871.373
106698	1778.3	1939.2	-160.882	160.882	25882.992
84876924.7	62892.6	62892.618	-0.01835238	2210.5	1.16776E+05



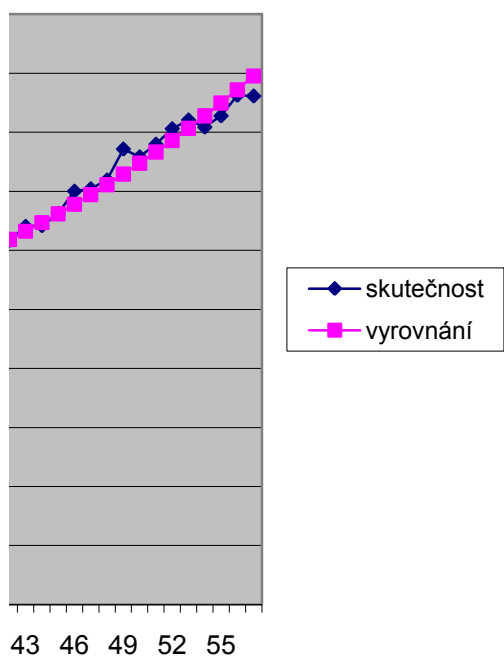
THEILovoU 0.09374

APE	MAPE
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0.056	0.055
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0.016	0.016
0.017	0.017
0.061	0.063
0.016	0.016
0.037	0.038
0.043	0.044
0.053	0.054
0.088	0.092
0.076	0.079
0.062	0.064
0.053	0.054
0.061	0.063
0.056	0.057
0.030	0.030
0.049	0.048
0.101	0.096
0.118	0.111
0.099	0.094
0.065	0.063
0.102	0.097
0.042	0.041
0.043	0.042
0.023	0.022
0.011	0.011
0.024	0.023
0.042	0.041
0.005	0.005
0.019	0.019
0.057	0.058
0.025	0.026
0.049	0.050
0.041	0.042
0.008	0.008
0.037	0.036
0.028	0.028
0.032	0.032
0.003	0.003
0.013	0.013



0.008	0.008
0.001	0.001
0.032	0.033
0.014	0.014
0.011	0.011
0.055	0.057
0.015	0.015
0.017	0.017
0.025	0.025
0.017	0.018
0.023	0.023
0.026	0.026
0.011	0.011
0.039	0.039
0.021	0.020
0.056	0.054
0.090	0.087
0.03822	0.03808

idem



čtvrtletí	pořadí	realinvs	t ²	t ³	t ⁴	t*yt
1986Q1	1	886.2	1	1	1	886.2
1986Q2	2	868.3	4	8	16	1736.6
1986Q3	3	838	9	27	81	2514
1986Q4	4	838.2	16	64	256	3352.8
1987Q1	5	863.4	25	125	625	4317
1987Q2	6	863.9	36	216	1296	5183.4
1987Q3	7	860.5	49	343	2401	6023.5
1987Q4	8	929.3	64	512	4096	7434.4
1988Q1	9	884.6	81	729	6561	7961.4
1988Q2	10	902.5	100	1000	10000	9025
1988Q3	11	907.5	121	1331	14641	9982.5
1988Q4	12	916.7	144	1728	20736	11000.4
1989Q1	13	952.7	169	2197	28561	12385.1
1989Q2	14	941.1	196	2744	38416	13175.4
1989Q3	15	929.3	225	3375	50625	13939.5
1989Q4	16	922.9	256	4096	65536	14766.4
1990Q1	17	934	289	4913	83521	15878
1990Q2	18	933	324	5832	104976	16794
1990Q3	19	912.6	361	6859	130321	17339.4
1990Q4	20	849.6	400	8000	160000	16992
1991Q1	21	815.1	441	9261	194481	17117.1
1991Q2	22	808.8	484	10648	234256	17793.6
1991Q3	23	829.8	529	12167	279841	19085.4
1991Q4	24	864.2	576	13824	331776	20740.8
1992Q1	25	843.8	625	15625	390625	21095
1992Q2	26	901.8	676	17576	456976	23446.8
1992Q3	27	912.1	729	19683	531441	24626.7
1992Q4	28	941.6	784	21952	614656	26364.8
1993Q1	29	964.8	841	24389	707281	27979.2
1993Q2	30	967	900	27000	810000	29010
1993Q3	31	964.1	961	29791	923521	29887.1
1993Q4	32	1015.6	1024	32768	1048576	32499.2
1994Q1	33	1057.3	1089	35937	1185921	34890.9
1994Q2	34	1118.5	1156	39304	1336336	38029
1994Q3	35	1101.8	1225	42875	1500625	38563
1994Q4	36	1150.5	1296	46656	1679616	41418
1995Q1	37	1162.4	1369	50653	1874161	43008.8
1995Q2	38	1128.5	1444	54872	2085136	42883
1995Q3	39	1119.1	1521	59319	2313441	43644.9
1995Q4	40	1152.4	1600	64000	2560000	46096
1996Q1	41	1172.3	1681	68921	2825761	48064.3
1996Q2	42	1233.4	1764	74088	3111696	51802.8
1996Q3	43	1281.4	1849	79507	3418801	55100.2
1996Q4	44	1283.7	1936	85184	3748096	56482.8

1997Q1	45	1325.4	2025	91125	4100625	59643
1997Q2	46	1400.6	2116	97336	4477456	64427.6
1997Q3	47	1408.6	2209	103823	4879681	66204.2
1997Q4	48	1438.5	2304	110592	5308416	69048
1998Q1	49	1543.3	2401	117649	5764801	75621.7
1998Q2	50	1516.8	2500	125000	6250000	75840
1998Q3	51	1559.7	2601	132651	6765201	79544.7
1998Q4	52	1612.1	2704	140608	7311616	83829.2
1999Q1	53	1641.8	2809	148877	7890481	87015.4
1999Q2	54	1617.4	2916	157464	8503056	87339.6
1999Q3	55	1655.8	3025	166375	9150625	91069
1999Q4	56	1725.4	3136	175616	9834496	96622.4
2000Q1	57	1722.9	3249	185193	10556001	98205.3
2000Q2	58	1801.6	3364	195112	11316496	
2000Q3	59	1788.8	3481	205379	12117361	
2000Q4	60	1778.3	3600	216000	12960000	
sumace	1653	62892.6	63365	2732409	125678141	2054726.5

$X'X=$	57	1653	63365
	1653	63365	2732409
	63365	2732409	125678141

$adj(X'X)=$

$det(X'X)$	2.93506E+12
------------	-------------

$(X'X)^{-1}$	0.169514696	-0.011790841	0.000170882
	-0.011790841	0.00107273	-1.73778E-05
	0.000170882	-1.73778E-05	2.99617E-07

$X'y=$	62892.6
	2054726.5
	84876924.7

b1	938.1844498
b2	-12.36471026
b3	0.471158406

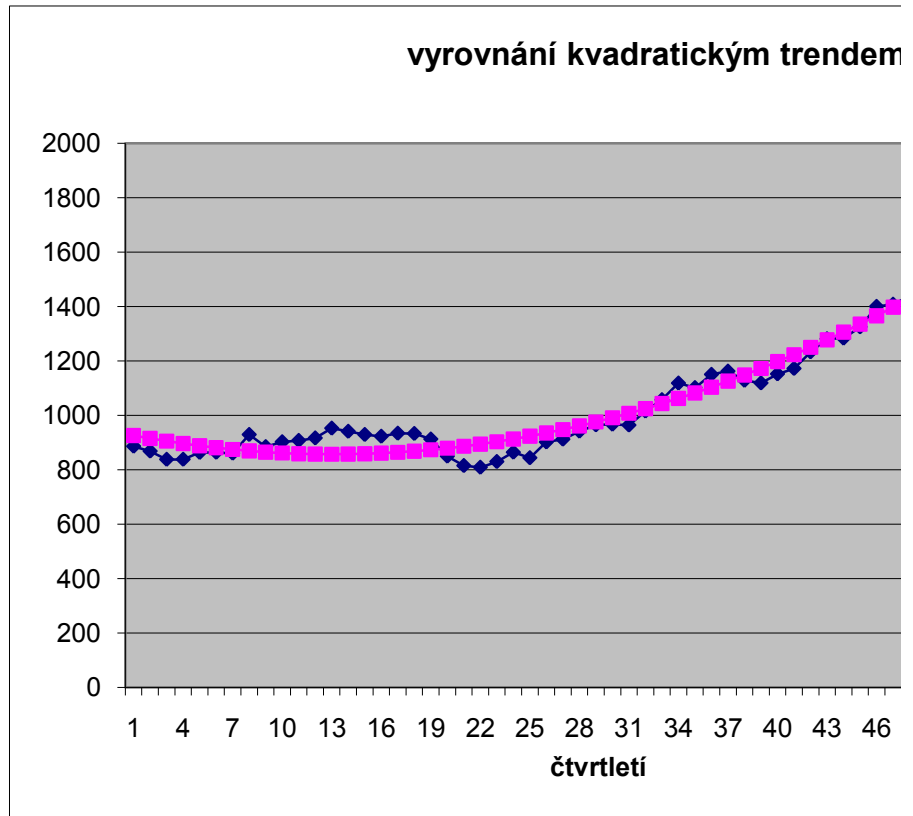
$t^2 \cdot y_t$	skutečnost	vyrovnání	rezidua	abs.rezidua	rezidua ²
886.2	886.2	926.3	-40.1	40.09	1607.28
3473.2	868.3	915.3	-47.0	47.04	2212.73
7542	838	905.3	-67.3	67.33	4533.43
13411.2	838.2	896.3	-58.1	58.06	3371.44
21585	863.4	888.1	-24.7	24.74	612.06
31100.4	863.9	881.0	-17.1	17.06	290.97
42164.5	860.5	874.7	-14.2	14.22	202.16
59475.2	929.3	869.4	59.9	59.88	3585.51
71652.6	884.6	865.1	19.5	19.53	381.58
90250	902.5	861.7	40.8	40.85	1668.46
109807.5	907.5	859.2	48.3	48.32	2334.55
132004.8	916.7	857.7	59.0	59.05	3486.34
161006.3	952.7	857.1	95.6	95.63	9145.29
184455.6	941.1	857.4	83.7	83.67	7001.41
209092.5	929.3	858.7	70.6	70.58	4980.91
236262.4	922.9	861.0	61.9	61.93	3835.87
269926	934	864.1	69.9	69.85	4879.14
302292	933	868.3	64.7	64.73	4189.33
329448.6	912.6	873.3	39.3	39.26	1541.10
339840	849.6	879.4	-29.8	29.75	885.28
359459.1	815.1	886.3	-71.2	71.21	5070.35
391459.2	808.8	894.2	-85.4	85.40	7293.41
438964.2	829.8	903.0	-73.2	73.24	5363.94
497779.2	864.2	912.8	-48.6	48.62	2363.77
527375	843.8	923.5	-79.7	79.74	6358.58
609616.8	901.8	935.2	-33.4	33.41	1115.90
664920.9	912.1	947.8	-35.7	35.71	1275.33
738214.4	941.6	961.4	-19.8	19.76	390.49
811396.8	964.8	975.9	-11.1	11.05	122.15
870300	967	991.3	-24.3	24.29	589.80
926500.1	964.1	1007.7	-43.6	43.56	1897.62
1039974.4	1015.6	1025.0	-9.4	9.38	87.98
1151399.7	1057.3	1043.2	14.1	14.06	197.67
1292986	1118.5	1062.4	56.1	56.06	3142.34
1349705	1101.8	1082.6	19.2	19.21	369.08
1491048	1150.5	1103.7	46.8	46.82	2192.47
1591325.6	1162.4	1125.7	36.7	36.69	1346.45
1629554	1128.5	1148.7	-20.2	20.18	407.16
1702151.1	1119.1	1172.6	-53.5	53.49	2861.47
1843840	1152.4	1197.4	-45.0	45.05	2029.46
1970636.3	1172.3	1223.2	-50.9	50.95	2595.76
2175717.6	1233.4	1250.0	-16.6	16.59	275.23
2369308.6	1281.4	1277.7	3.7	3.73	13.88
2485243.2	1283.7	1306.3	-22.6	22.60	510.75

2683935	1325.4	1335.9	-10.5	10.47	109.58
2963669.6	1400.6	1366.4	34.2	34.22	1171.08
3111597.4	1408.6	1397.8	10.8	10.77	115.95
3314304	1438.5	1430.2	8.3	8.27	68.44
3705463.3	1543.3	1463.6	79.7	79.74	6357.67
3792000	1516.8	1497.8	19.0	18.96	359.29
4056779.7	1559.7	1533.1	26.6	26.63	709.30
4359118.4	1612.1	1569.2	42.9	42.87	1837.68
4611816.2	1641.8	1606.3	35.5	35.46	1257.50
4716338.4	1617.4	1644.4	-27.0	26.99	728.35
5008795	1655.8	1683.4	-27.6	27.58	760.63
5410854.4	1725.4	1723.3	2.1	2.09	4.35
5597702.1	1722.9	1764.2	-41.3	41.29	1704.83
104492.8	1801.6	1806.0	-4.4	4.41	19.43
105539.2	1788.8	1848.8	-60.0	59.97	3596.28
106698	1778.3	1892.5	-114.2	114.17	13035.27
84876924.7	62892.6	62892.6	-1.2699E-10	2297.68	123800.55

4.97536E+11	3.461E+10	501548852
34606870788	3.149E+09	51004968
501548852	51004968	879396

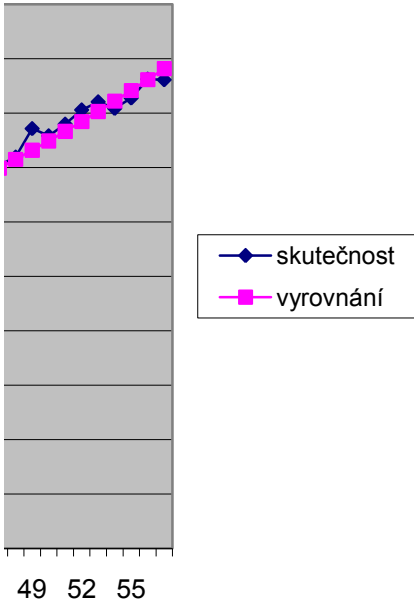
THEILovoU	0.09557
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APE	MAPE
0.045	0.044
0.054	0.053
0.080	0.077
0.069	0.067
0.029	0.028
0.020	0.020
0.017	0.016
0.064	0.067
0.022	0.022
0.045	0.046
0.053	0.055
0.064	0.067
0.100	0.106
0.089	0.093
0.076	0.079
0.067	0.069
0.075	0.078
0.069	0.072
0.043	0.044
0.035	0.034
0.087	0.084
0.106	0.100
0.088	0.085
0.056	0.055
0.095	0.090
0.037	0.036
0.039	0.038
0.021	0.021
0.011	0.011
0.025	0.025
0.045	0.044
0.009	0.009
0.013	0.013
0.050	0.051
0.017	0.018
0.041	0.042
0.032	0.032
0.018	0.018
0.048	0.047
0.039	0.038
0.043	0.043
0.013	0.013
0.003	0.003
0.018	0.017



0.008	0.008
0.024	0.025
0.008	0.008
0.006	0.006
0.052	0.053
0.012	0.013
0.017	0.017
0.027	0.027
0.022	0.022
0.017	0.017
0.017	0.017
0.001	0.001
0.024	0.024
0.002	0.002
0.034	0.033
0.064	0.062
0.040475	0.040458

1



čtvrtletí	pořadí	realinvs	t ²	t*yt
1986Q1	1	886.2	1	886.2
1986Q2	2	868.3	4	1736.6
1986Q3	3	838	9	2514
1986Q4	4	838.2	16	3352.8
1987Q1	5	863.4	25	4317
1987Q2	6	863.9	36	5183.4
1987Q3	7	860.5	49	6023.5
1987Q4	8	929.3	64	7434.4
1988Q1	9	884.6	81	7961.4
1988Q2	10	902.5	100	9025
1988Q3	11	907.5	121	9982.5
1988Q4	12	916.7	144	11000.4
1989Q1	13	952.7	169	12385.1
1989Q2	14	941.1	196	13175.4
1989Q3	15	929.3	225	13939.5
1989Q4	16	922.9	256	14766.4
1990Q1	17	934	289	15878
1990Q2	18	933	324	16794
1990Q3	19	912.6	361	17339.4
1990Q4	20	849.6	400	16992
1991Q1	21	815.1	441	17117.1
1991Q2	22	808.8	484	17793.6
1991Q3	23	829.8	529	19085.4
1991Q4	24	864.2	576	20740.8
1992Q1	25	843.8	625	21095
1992Q2	26	901.8	676	23446.8
1992Q3	27	912.1	729	24626.7
1992Q4	28	941.6	784	26364.8
1993Q1	29	964.8	841	27979.2
1993Q2	30	967	900	29010
1993Q3	31	964.1	961	29887.1
1993Q4	32	1015.6	1024	32499.2
1994Q1	33	1057.3	1089	34890.9
1994Q2	34	1118.5	1156	38029
1994Q3	35	1101.8	1225	38563
1994Q4	36	1150.5	1296	41418
1995Q1	37	1162.4	1369	43008.8
1995Q2	38	1128.5	1444	42883
1995Q3	39	1119.1	1521	43644.9
1995Q4	40	1152.4	1600	46096
1996Q1	41	1172.3	1681	48064.3
1996Q2	42	1233.4	1764	51802.8
1996Q3	43	1281.4	1849	55100.2
1996Q4	44	1283.7	1936	56482.8

skutečnost	vyrovnání
886.2	684.4
868.3	699.4
838	714.4
838.2	729.3
863.4	744.3
863.9	759.2
860.5	774.2
929.3	789.2
884.6	804.1
902.5	819.1
907.5	834.1
916.7	849.0
952.7	864.0
941.1	878.9
929.3	893.9
922.9	908.9
934	923.8
933	938.8
912.6	953.8
849.6	968.7
815.1	983.7
808.8	998.6
829.8	1013.6
864.2	1028.6
843.8	1043.5
901.8	1058.5
912.1	1073.5
941.6	1088.4
964.8	1103.4
967	1118.3
964.1	1133.3
1015.6	1148.3
1057.3	1163.2
1118.5	1178.2
1101.8	1193.2
1150.5	1208.1
1162.4	1223.1
1128.5	1238.0
1119.1	1253.0
1152.4	1268.0
1172.3	1282.9
1233.4	1297.9
1281.4	1312.9
1283.7	1327.8

1997Q1	45	1325.4	2025	59643
1997Q2	46	1400.6	2116	64427.6
1997Q3	47	1408.6	2209	66204.2
1997Q4	48	1438.5	2304	69048
1998Q1	49	1543.3	2401	75621.7
1998Q2	50	1516.8	2500	75840
1998Q3	51	1559.7	2601	79544.7
1998Q4	52	1612.1	2704	83829.2
1999Q1	53	1641.8	2809	87015.4
1999Q2	54	1617.4	2916	87339.6
1999Q3	55	1655.8	3025	91069
1999Q4	56	1725.4	3136	96622.4
2000Q1	57	1722.9	3249	98205.3
2000Q2	58	1801.6	3364	104492.8
2000Q3	59	1788.8	3481	105539.2
2000Q4	60	1778.3	3600	106698
sumace	1653	62892.6	63365	2054726.5

1325.4	1342.8
1400.6	1357.7
1408.6	1372.7
1438.5	1387.7
1543.3	1402.6
1516.8	1417.6
1559.7	1432.6
1612.1	1447.5
1641.8	1462.5
1617.4	1477.4
1655.8	1492.4
1725.4	1507.4
1722.9	1522.3
1801.6	1537.3
1788.8	1552.3
1778.3	1567.2
62892.6	62892.6

$X^T X =$	57	1653
	1653	63365

THEILovoU	0.15778
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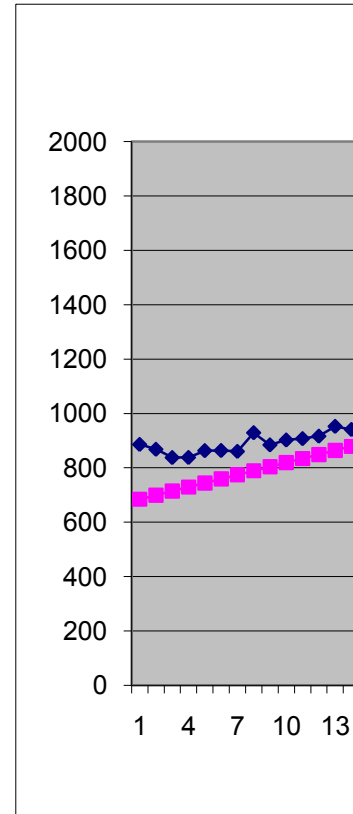
$\det(X^T X)$	879396
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$(X^T X)^{-1}$	0.072055	-0.00188
	-0.00188	6.48E-05

$X^T y =$	62892.6
	2054727

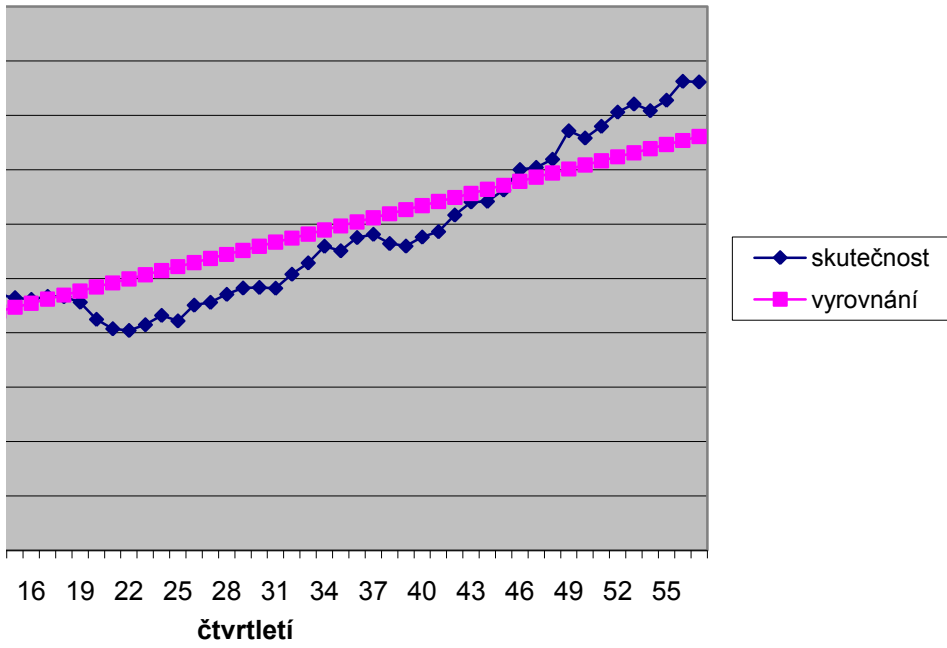
b1	669.4671
b2	14.96248

rezidua	abs.rezidua	rezidua^2	MAPE	AMAPE
201.8	201.77042	40711.3013	0.2277	0.256929
168.9	168.90794	28529.8922	0.1945	0.215486
123.6	123.64546	15288.2005	0.1475	0.159301
108.9	108.88299	11855.5045	0.1299	0.138924
119.1	119.12051	14189.6955	0.1380	0.148189
104.7	104.65803	10953.3034	0.1211	0.128957
86.3	86.295554	7446.92256	0.1003	0.105579
140.1	140.13308	19637.2791	0.1508	0.163091
80.5	80.470599	6475.51729	0.0910	0.095303
83.4	83.408122	6956.91475	0.0924	0.096897
73.4	73.445644	5394.26266	0.0809	0.084345
67.7	67.683167	4581.01109	0.0738	0.076664
88.7	88.72069	7871.36077	0.0931	0.097673
62.2	62.158212	3863.64336	0.0660	0.068304
35.4	35.395735	1252.85806	0.0381	0.038828
14.0	14.033258	196.932322	0.0152	0.015322
10.2	10.17078	103.444774	0.0109	0.010949
-5.8	5.7916969	33.5437532	0.0062	0.006188
-41.2	41.154174	1693.66606	0.0451	0.044101
-119.1	119.11665	14188.7767	0.1402	0.131019
-168.6	168.57913	28418.9227	0.2068	0.187437
-189.8	189.84161	36039.8354	0.2347	0.210067
-183.8	183.80408	33783.9411	0.2215	0.199418
-164.4	164.36656	27016.3663	0.1902	0.173679
-199.7	199.72904	39891.6887	0.2367	0.211653
-156.7	156.69152	24552.231	0.1738	0.159866
-161.4	161.35399	26035.111	0.1769	0.162528
-146.8	146.81647	21555.0759	0.1559	0.144646
-138.6	138.57895	19204.1247	0.1436	0.134011
-151.3	151.34142	22904.2268	0.1565	0.145148
-169.2	169.2039	28629.9605	0.1755	0.161346
-132.7	132.66638	17600.3682	0.1306	0.12262
-105.9	105.92886	11220.9227	0.1002	0.095409
-59.7	59.691334	3563.05535	0.0534	0.05198
-91.4	91.353811	8345.51883	0.0829	0.079613
-57.6	57.616289	3319.63671	0.0501	0.048856
-60.7	60.678766	3681.91263	0.0522	0.050873
-109.5	109.54124	11999.284	0.0971	0.092575
-133.9	133.90372	17930.2064	0.1197	0.112899
-115.6	115.5662	13355.5461	0.1003	0.095495
-110.6	110.62868	12238.7038	0.0944	0.090117
-64.5	64.491152	4159.10874	0.0523	0.050955
-31.5	31.45363	989.330825	0.0245	0.024249
-44.1	44.116107	1946.2309	0.0344	0.033786



-17.4	17.378584	302.015195	0.0131	0.013027
42.9	42.858938	1836.88859	0.0306	0.031076
35.9	35.896461	1288.55591	0.0255	0.025813
50.8	50.833984	2584.0939	0.0353	0.035974
140.7	140.67151	19788.4727	0.0911	0.095502
99.2	99.209029	9842.43144	0.0654	0.067618
127.1	127.14655	16166.2456	0.0815	0.084984
164.6	164.58407	27087.9175	0.1021	0.107585
179.3	179.3216	32156.2352	0.1092	0.115532
140.0	139.95912	19588.5552	0.0865	0.090447
163.4	163.39664	26698.4628	0.0987	0.103803
218.0	218.03417	47538.8972	0.1264	0.13489
200.6	200.57169	40229.002	0.1164	0.12361
264.3	264.30921	69859.3588	0.1467	0.158322
236.5	236.54673	55954.357	0.1322	0.1416
211.1	211.08426	44556.5631	0.1187	0.126189
4.5475E-12	6262.8	8.6471E+05	0.105419	0.104406

vyrovnání lineárním trendem



čtvrtletí	pořadí	ln(pořadí)	realinvs	ln ² t	t*y _t	skutečnost
1986Q1	1	0	886.2	0	0	886.200
1986Q2	2	0.693147	868.3	0.480453014	601.8597	868.300
1986Q3	3	1.098612	838	1.206948961	920.6371	838.000
1986Q4	4	1.386294	838.2	1.921812056	1161.992	838.200
1987Q1	5	1.609438	863.4	2.590290394	1389.589	863.400
1987Q2	6	1.791759	863.9	3.210401996	1547.901	863.900
1987Q3	7	1.94591	860.5	3.786566308	1674.456	860.500
1987Q4	8	2.079442	929.3	4.324077125	1932.425	929.300
1988Q1	9	2.197225	884.6	4.827795843	1943.665	884.600
1988Q2	10	2.302585	902.5	5.30189811	2078.083	902.500
1988Q3	11	2.397895	907.5	5.749901739	2176.09	907.500
1988Q4	12	2.484907	916.7	6.174761058	2277.914	916.700
1989Q1	13	2.564949	952.7	6.578965206	2443.627	952.700
1989Q2	14	2.639057	941.1	6.964623589	2483.617	941.100
1989Q3	15	2.70805	929.3	7.333535892	2516.591	929.300
1989Q4	16	2.772589	922.9	7.687248223	2558.822	922.900
1990Q1	17	2.833213	934	8.027097853	2646.221	934.000
1990Q2	18	2.890372	933	8.354248899	2696.717	933.000
1990Q3	19	2.944439	912.6	8.669720902	2687.095	912.600
1990Q4	20	2.995732	849.6	8.974411855	2545.174	849.600
1991Q1	21	3.044522	815.1	9.269116874	2481.59	815.100
1991Q2	22	3.091042	808.8	9.554543448	2500.035	808.800
1991Q3	23	3.135494	829.8	9.831323978	2601.833	829.800
1991Q4	24	3.178054	864.2	10.10002615	2746.474	864.200
1992Q1	25	3.218876	843.8	10.36116158	2716.087	843.800
1992Q2	26	3.258097	901.8	10.61519305	2938.151	901.800
1992Q3	27	3.295837	912.1	10.86254065	3006.133	912.100
1992Q4	28	3.332205	941.6	11.1035869	3137.604	941.600
1993Q1	29	3.367296	964.8	11.33868121	3248.767	964.800
1993Q2	30	3.401197	967	11.56814363	3288.958	967.000
1993Q3	31	3.433987	964.1	11.79226812	3310.707	964.100
1993Q4	32	3.465736	1015.6	12.01132535	3519.801	1015.600
1994Q1	33	3.496508	1057.3	12.22556513	3696.857	1057.300
1994Q2	34	3.526361	1118.5	12.43521855	3944.234	1118.500
1994Q3	35	3.555348	1101.8	12.64049984	3917.282	1101.800
1994Q4	36	3.583519	1150.5	12.84160798	4122.839	1150.500
1995Q1	37	3.610918	1162.4	13.03872817	4197.331	1162.400
1995Q2	38	3.637586	1128.5	13.23203307	4105.016	1128.500
1995Q3	39	3.663562	1119.1	13.42168393	4099.892	1119.100
1995Q4	40	3.688879	1152.4	13.60783163	4251.065	1152.400
1996Q1	41	3.713572	1172.3	13.79061749	4353.421	1172.300
1996Q2	42	3.73767	1233.4	13.97017418	4610.042	1233.400
1996Q3	43	3.7612	1281.4	14.14662631	4819.602	1281.400
1996Q4	44	3.78419	1283.7	14.32009119	4857.764	1283.700

1997Q1	45	3.806662	1325.4	14.49067931	5045.35	1325.400
1997Q2	46	3.828641	1400.6	14.65849494	5362.395	1400.600
1997Q3	47	3.850148	1408.6	14.82363655	5423.318	1408.600
1997Q4	48	3.871201	1438.5	14.98619727	5568.723	1438.500
1998Q1	49	3.89182	1543.3	15.14626523	6006.246	1543.300
1998Q2	50	3.912023	1516.8	15.30392399	5933.756	1516.800
1998Q3	51	3.931826	1559.7	15.45925281	6132.468	1559.700
1998Q4	52	3.951244	1612.1	15.61232692	6369.8	1612.100
1999Q1	53	3.970292	1641.8	15.76321788	6518.425	1641.800
1999Q2	54	3.988984	1617.4	15.91199372	6451.783	1617.400
1999Q3	55	4.007333	1655.8	16.05871926	6635.342	1655.800
1999Q4	56	4.025352	1725.4	16.20345623	6945.342	1725.400
2000Q1	57	4.043051	1722.9	16.34626355	6965.773	1722.900
2000Q2	58	4.060443	1801.6	16.48719744	7315.294	1801.600
2000Q3	59	4.077537	1788.8	16.62631161	7293.899	1788.800
2000Q4	60	4.094345	1778.3	16.76365739	7280.973	1778.300
sumace	1653	176.3958	62892.6	591.0077751	204112.7	62892.6

$$X'X = \begin{bmatrix} 57 & 176.3958484 \\ 176.3958484 & 591.0077751 \end{bmatrix}$$

THEILovoU

$$\det(X'X) = 2571.947845$$

$$(X'X)^{-1} = \begin{bmatrix} 0.22978995 & -0.06858454 \\ -0.06858454 & 0.02216219 \end{bmatrix}$$

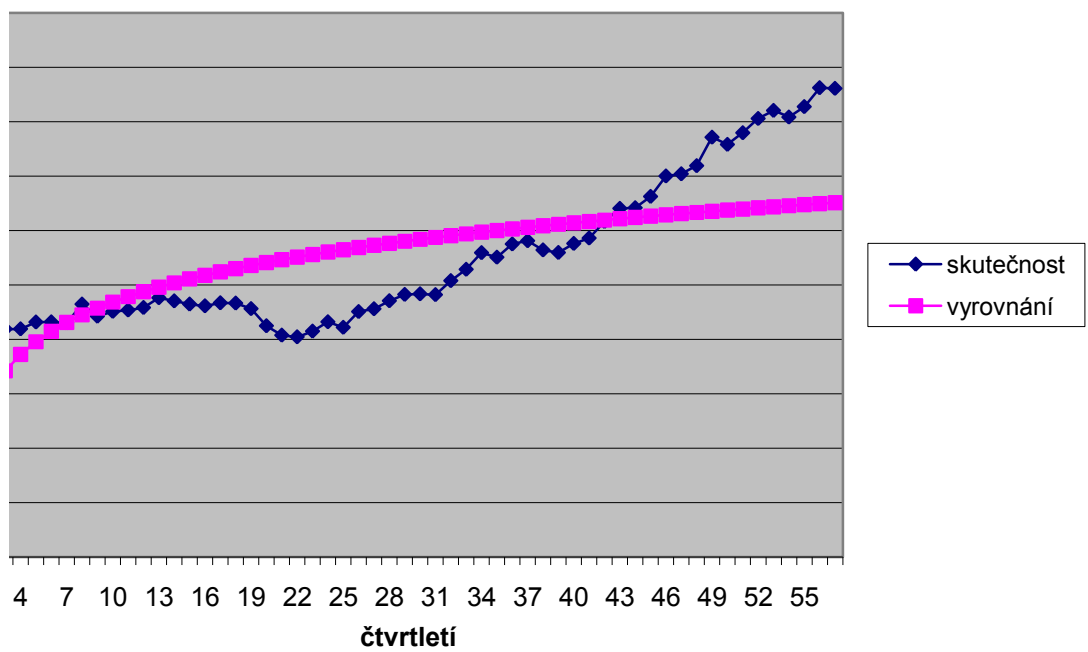
$$X'y = \begin{bmatrix} 62893 \\ 204113 \end{bmatrix}$$

$$\begin{bmatrix} b1 \\ b2 \end{bmatrix} = \begin{bmatrix} 453.114 \\ 210.125 \end{bmatrix}$$

1252.987	72.413	72.413	5243.595	0.055	0.056
1257.606	142.994	142.994	20447.389	0.102	0.108
1262.125	146.475	146.475	21455.038	0.104	0.110
1266.548	171.952	171.952	29567.334	0.120	0.127
1270.881	272.419	272.419	74212.071	0.177	0.194
1275.126	241.674	241.674	58406.245	0.159	0.173
1279.287	280.413	280.413	78631.351	0.180	0.198
1283.367	328.733	328.733	108065.125	0.204	0.227
1287.370	354.430	354.430	125620.703	0.216	0.242
1291.298	326.102	326.102	106342.798	0.202	0.224
1295.153	360.647	360.647	130066.136	0.218	0.244
1298.939	426.461	426.461	181868.727	0.247	0.282
1302.658	420.242	420.242	176602.988	0.244	0.278
1306.313	495.287	495.287	245309.361	0.275	0.319
1309.905	478.895	478.895	229340.602	0.268	0.309
1313.436	464.864	464.864	216098.167	0.261	0.301
62892.6	-1.0982E-10	9.4289E+03	2.32643E+06	0.15188	0.151497

0.19360

vyrovnání logaritmickým trendem

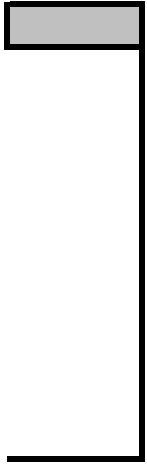


<i>čtvrtletí</i>	<i>pořadí</i>	<i>realinvs</i>
1993Q1	1	886.2
1993Q2	2	868.3
1993Q3	3	838
1993Q4	4	838.2
1994Q1	5	863.4
1994Q2	6	863.9
1994Q3	7	860.5
1994Q4	8	929.3
1995Q1	9	884.6
1995Q2	10	902.5
1995Q3	11	907.5
1995Q4	12	916.7
1996Q1	13	952.7
1996Q2	14	941.1
1996Q3	15	929.3
1996Q4	16	922.9
1997Q1	17	934
1997Q2	18	933
1997Q3	19	912.6
1997Q4	20	849.6
1998Q1	21	815.1
1998Q2	22	808.8
1998Q3	23	829.8
1998Q4	24	864.2
1999Q1	25	843.8
1999Q2	26	901.8
1999Q3	27	912.1
1999Q4	28	941.6
2000Q1	29	964.8
2000Q2	30	967
2000Q3	31	964.1
2000Q4	32	1015.6
2001Q1	33	1057.3
2001Q2	34	1118.5
2001Q3	35	1101.8
2001Q4	36	1150.5
2002Q1	37	1162.4
2002Q2	38	1128.5
2002Q3	39	1119.1
2002Q4	40	1152.4
2003Q1	41	1172.3
2003Q2	42	1233.4
2003Q3	43	1281.4
2003Q4	44	1283.7

2004Q1	45	1325.4
2004Q2	46	1400.6
2004Q3	47	1408.6
2004Q4	48	1438.5
2005Q1	49	1543.3
2005Q2	50	1516.8
2005Q3	51	1559.7
2005Q4	52	1612.1
2006Q1	53	1641.8
2006Q2	54	1617.4
2006Q3	55	1655.8
2006Q4	56	1725.4
2007Q1	57	1722.9
2007Q2	58	1801.6
2007Q3	59	1788.8
2007Q4	60	1778.3



trendová funkce		ME	MAE	SSE	MSE	RMSE	MAPE	AMAPE	THEIL' U
1	<i>lineární trend</i>	7.9781E-14	109.8737	864710	15170.35	123.168	10.542	10.441	0.15778
2	<i>kvadratický trend</i>	-2.1577E-12	40.3103	123801	2171.94	46.604	4.048	4.046	0.09557
3	<i>kubický trend</i>	-3.2197E-04	38.7807	116776	2048.70	45.263	3.822	3.808	0.09374
5	<i>bikvadratický trend</i>	-5.6543E-03	31.2480	79943	1402.51	37.450	3.105	3.095	0.08414
6	<i>mocninný trend</i>	1.7370E+01	40.3102	2113120	37072.28	192.542	13.289	13.303	0.18548
7	<i>logaritmický trend</i>	-1.9267E-12	165.4193	2326430	40814.56	202.026	15.188	15.150	0.19360
8	<i>exponenciální trend</i>	6.7616E+00	90.1737	631910	11086.14	105.291	8.434	8.337	0.14316
9	<i>modifik.expon.trend</i>	-3.5088E-04	64.8632	462573	8115.32	90.085	5.537	5.488	0.12123
9	<i>logistický trend</i>	-3.7505E+01	123.8614	4250440	74569.12	273.073	9.160	8.449	0.16612
10	<i>Gompertzův trend</i>	-7.5871E+00	82.3729	1014221	17793.35	133.392	6.663	6.520	0.27230



čtvrtletí	pořadí	rec.hodnota	čtvrtletí	pořadí	rec.hodnota	čtvrtletí	pořadí
1986Q1	1	0.001128	1990Q4	20	0.001177	1995Q3	39
1986Q2	2	0.001152	1991Q1	21	0.001227	1995Q4	40
1986Q3	3	0.001193	1991Q2	22	0.001236	1996Q1	41
1986Q4	4	0.001193	1991Q3	23	0.001205	1996Q2	42
1987Q1	5	0.001158	1991Q4	24	0.001157	1996Q3	43
1987Q2	6	0.001158	1992Q1	25	0.001185	1996Q4	44
1987Q3	7	0.001162	1992Q2	26	0.001109	1997Q1	45
1987Q4	8	0.001076	1992Q3	27	0.001096	1997Q2	46
1988Q1	9	0.001130	1992Q4	28	0.001062	1997Q3	47
1988Q2	10	0.001108	1993Q1	29	0.001036	1997Q4	48
1988Q3	11	0.001102	1993Q2	30	0.001034	1998Q1	49
1988Q4	12	0.001091	1993Q3	31	0.001037	1998Q2	50
1989Q1	13	0.001050	1993Q4	32	0.000985	1998Q3	51
1998Q2	14	0.001063	1994Q1	33	0.000946	1998Q4	52
1989Q3	15	0.001076	1994Q2	34	0.000894	1999Q1	53
1989Q4	16	0.001084	1994Q3	35	0.000908	1999Q2	54
1990Q1	17	0.001071	1994Q4	36	0.000869	1999Q3	55
1990Q2	18	0.001072	1995Q1	37	0.000860	1999Q4	56
1990Q3	19	0.001096	1995Q2	38	0.000886	2000Q1	57
		0.021162			0.019910		

parametr	b=	5.188557837	1.0905210
parametr	a=	0.004731363	-0.0000059
parametr	c=	-0.000298741	0.0011295

rec.hodnota
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0.000811
0.000780
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0.000710
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0.000648
0.000659
0.000641
0.000620
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0.000580
0.013418

hodnota	hodnota	hodnota	realinvs
886.2	849.6	1119.1	886.2
868.3	815.1	1152.4	868.3
838	808.8	1172.3	838
838.2	829.8	1233.4	838.2
863.4	864.2	1281.4	863.4
863.9	843.8	1283.7	863.9
860.5	901.8	1325.4	860.5
929.3	912.1	1400.6	929.3
884.6	941.6	1408.6	884.6
902.5	964.8	1438.5	902.5
907.5	967	1543.3	907.5
916.7	964.1	1516.8	916.7
952.7	1015.6	1559.7	952.7
941.1	1057.3	1612.1	941.1
929.3	1118.5	1641.8	929.3
922.9	1101.8	1617.4	922.9
934	1150.5	1655.8	934
933	1162.4	1725.4	933
912.6	1128.5	1722.9	912.6
17084.7	18397.3	27410.6	849.6
			815.1
			808.8
			829.8
			864.2
			843.8
			901.8
			912.1
			941.6
			964.8
			967
			964.1
			1015.6
			1057.3
			1118.5
			1101.8
			1150.5
			1162.4
			1128.5
			1119.1
			1152.4
			1172.3
			1233.4
			1281.4

1283.7
1325.4
1400.6
1408.6
1438.5
1543.3
1516.8
1559.7
1612.1
1641.8
1617.4
1655.8
1725.4
1722.9
1801.6
1788.8
1778.3

čtvrtletí	pořadí	hodnota	t^2	$xt*yt$
1986Q1	1	6.7869	1	6.7869
1986Q2	2	6.7665	4	13.5331
1986Q3	3	6.7310	9	20.1931
1986Q4	4	6.7313	16	26.9250
1987Q1	5	6.7609	25	33.8044
1987Q2	6	6.7615	36	40.5687
1987Q3	7	6.7575	49	47.3026
1987Q4	8	6.8344	64	54.6755
1988Q1	9	6.7851	81	61.0662
1988Q2	10	6.8052	100	68.0517
1988Q3	11	6.8107	121	74.9176
1988Q4	12	6.8208	144	81.8494
1989Q1	13	6.8593	169	89.1709
1989Q2	14	6.8470	196	95.8587
1989Q3	15	6.8344	225	102.5165
1989Q4	16	6.8275	256	109.2403
1990Q1	17	6.8395	289	116.2711
1990Q2	18	6.8384	324	123.0913
1990Q3	19	6.8163	361	129.5097
1990Q4	20	6.7448	400	134.8953
1991Q1	21	6.7033	441	140.7695
1991Q2	22	6.6956	484	147.3021
1991Q3	23	6.7212	529	154.5872
1991Q4	24	6.7618	576	162.2833
1992Q1	25	6.7379	625	168.4479
1992Q2	26	6.8044	676	176.9142
1992Q3	27	6.8157	729	184.0252
1992Q4	28	6.8476	784	191.7323
1993Q1	29	6.8719	841	199.2857
1993Q2	30	6.8742	900	206.2260
1993Q3	31	6.8712	961	213.0070
1993Q4	32	6.9232	1024	221.5435
1994Q1	33	6.9635	1089	229.7946
1994Q2	34	7.0197	1156	238.6713
1994Q3	35	7.0047	1225	245.1645
1994Q4	36	7.0480	1296	253.7263
1995Q1	37	7.0582	1369	261.1550
1995Q2	38	7.0286	1444	267.0885
1995Q3	39	7.0203	1521	273.7909
1995Q4	40	7.0496	1600	281.9841
1996Q1	41	7.0667	1681	289.7356
1996Q2	42	7.1175	1764	298.9363
1996Q3	43	7.1557	1849	307.6955

skutečnost	vyrovnání	rezidua
886.2	750.2	136.0
868.3	759.8	108.5
838	769.6	68.4
838.2	779.5	58.7
863.4	789.5	73.9
863.9	799.6	64.3
860.5	809.9	50.6
929.3	820.3	109.0
884.6	830.9	53.7
902.5	841.6	60.9
907.5	852.4	55.1
916.7	863.3	53.4
952.7	874.4	78.3
941.1	885.7	55.4
929.3	897.1	32.2
922.9	908.6	14.3
934	920.3	13.7
933	932.1	0.9
912.6	944.1	-31.5
849.6	956.3	-106.7
815.1	968.5	-153.4
808.8	981.0	-172.2
829.8	993.6	-163.8
864.2	1006.4	-142.2
843.8	1019.3	-175.5
901.8	1032.4	-130.6
912.1	1045.7	-133.6
941.6	1059.1	-117.5
964.8	1072.8	-108.0
967	1086.6	-119.6
964.1	1100.5	-136.4
1015.6	1114.7	-99.1
1057.3	1129.0	-71.7
1118.5	1143.5	-25.0
1101.8	1158.2	-56.4
1150.5	1173.1	-22.6
1162.4	1188.2	-25.8
1128.5	1203.5	-75.0
1119.1	1219.0	-99.9
1152.4	1234.6	-82.2
1172.3	1250.5	-78.2
1233.4	1266.6	-33.2
1281.4	1282.9	-1.5

1996Q4	44	7.1575	1936	314.9301
1997Q1	45	7.1895	2025	323.5261
1997Q2	46	7.2447	2116	333.2542
1997Q3	47	7.2504	2209	340.7665
1997Q4	48	7.2714	2304	349.0251
1998Q1	49	7.3417	2401	359.7422
1998Q2	50	7.3244	2500	366.2179
1998Q3	51	7.3522	2601	374.9647
1998Q4	52	7.3853	2704	384.0352
1999Q1	53	7.4035	2809	392.3881
1999Q2	54	7.3886	2916	398.9831
1999Q3	55	7.4120	3025	407.6622
1999Q4	56	7.4532	3136	417.3800
2000Q1	57	7.4518	3249	424.7506
2000Q2	58	7.4964	3364	434.7930
2000Q3	59	7.4893	3481	441.8687
2000Q4	60	7.4834	3600	449.0048
sumace	1653	397.7458	63365	11731.72

1283.7	1299.4	-15.7
1325.4	1316.1	9.3
1400.6	1333.0	67.6
1408.6	1350.1	58.5
1438.5	1367.5	71.0
1543.3	1385.1	158.2
1516.8	1402.9	113.9
1559.7	1420.9	138.8
1612.1	1439.2	172.9
1641.8	1457.7	184.1
1617.4	1476.4	141.0
1655.8	1495.4	160.4
1725.4	1514.6	210.8
1722.9	1534.1	188.8
1801.6	1553.8	247.8
1788.8	1573.8	215.0
1778.3	1594.0	184.3
62892.6	62507.19	385.413156

$X^T X =$	57	1653
	1653	63365

THEILovoU	0.14316
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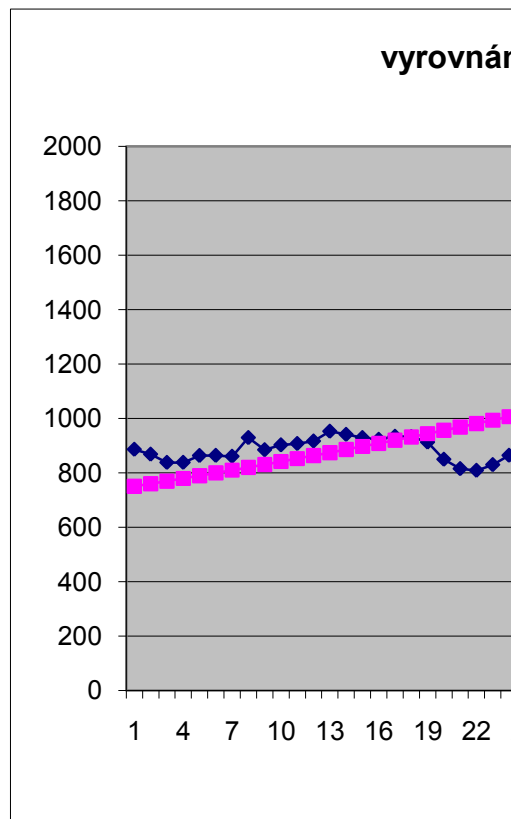
$\det(X^T X)$	879396
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$(X^T X)^{-1}$	0.072055	-0.0018797
	-0.00188	6.482E-05

$X^T y =$	397.7458
	11731.72

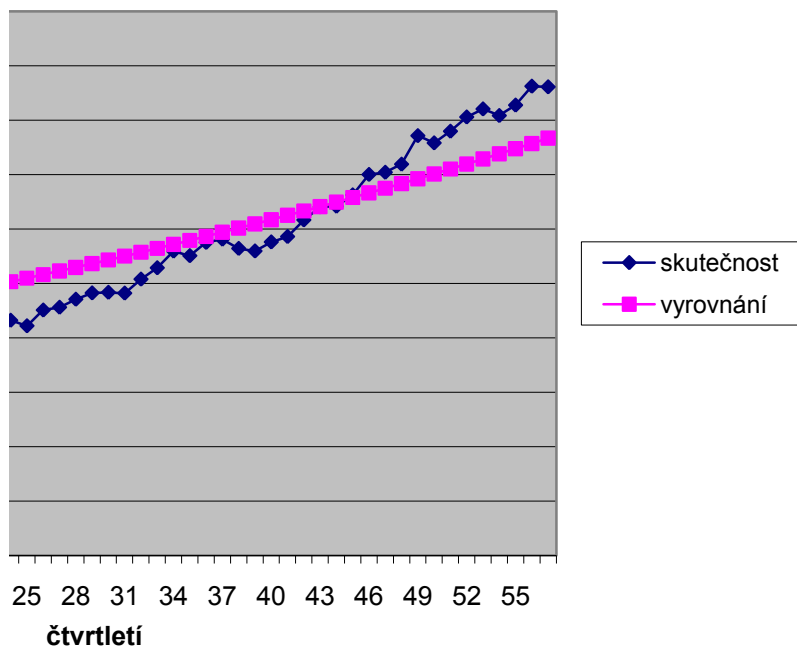
b1	6.607519
b2	0.012775

<i>abs.rezidua</i>	<i>rezidua^2</i>	<i>APE</i>	<i>MAPE</i>
136.03	18505.32695	0.1535	0.166264
108.49	11769.95026	0.1249	0.13327
68.42	4681.366587	0.0816	0.085122
58.73	3448.746081	0.0701	0.072606
73.90	5461.849222	0.0856	0.089424
64.25	4128.547592	0.0744	0.077249
50.57	2557.599947	0.0588	0.060551
108.96	11872.16834	0.1172	0.124551
53.71	2885.017413	0.0607	0.062621
60.93	3712.419998	0.0675	0.069871
55.11	3037.063281	0.0607	0.062628
53.35	2846.261859	0.0582	0.059943
78.25	6123.106059	0.0821	0.085653
55.41	3069.988161	0.0589	0.060661
32.22	1038.136173	0.0347	0.035283
14.29	204.1000852	0.0155	0.015601
13.70	187.8081121	0.0147	0.014781
0.87	0.760495057	0.0009	0.000935
31.51	993.0256738	0.0345	0.033944
106.65	11374.38601	0.1255	0.118117
153.45	23545.45625	0.1883	0.172058
172.20	29652.10957	0.2129	0.192422
163.81	26833.90408	0.1974	0.179675
142.19	20216.69648	0.1645	0.152022
175.52	30808.86148	0.2080	0.18842
130.63	17064.19508	0.1449	0.135072
133.60	17850.01563	0.1465	0.136483
117.55	13817.66668	0.1248	0.117505
107.97	11656.66797	0.1119	0.105976
119.56	14294.26089	0.1236	0.11644
136.43	18612.73508	0.1415	0.132158
99.08	9816.449784	0.0976	0.093019
71.71	5142.240788	0.0678	0.065599
25.03	626.2555736	0.0224	0.022126
56.43	3184.052239	0.0512	0.049935
22.62	511.6075072	0.0197	0.019469
25.80	665.7192572	0.0222	0.021953
74.98	5621.737832	0.0664	0.064304
99.85	9970.297078	0.0892	0.085414
82.22	6760.693903	0.0713	0.068892
78.20	6114.770596	0.0667	0.064551
33.17	1100.557059	0.0269	0.02654
1.46	2.128685053	0.0011	0.001138



15.65	245.0078315	0.0122	0.01212
9.34	87.26342559	0.0070	0.007073
67.62	4572.588632	0.0483	0.049474
58.48	3420.23788	0.0415	0.042399
71.02	5044.456339	0.0494	0.050624
158.24	25040.75045	0.1025	0.108076
113.94	12981.1856	0.0751	0.078047
138.80	19264.98579	0.0890	0.093134
172.93	29904.72414	0.1073	0.113349
184.13	33902.53344	0.1121	0.118811
140.99	19876.79544	0.0872	0.09114
160.40	25729.06323	0.0969	0.101804
210.78	44426.72722	0.1222	0.130108
188.80	35646.55933	0.1096	0.115937
247.78	61394.46803	0.1375	0.147689
215.00	46225.68264	0.1202	0.127878
184.27	33954.42069	0.1036	0.109282
5.1399E+03	6.31910E+05	0.084339	0.083374

ní exponenciálním trendem

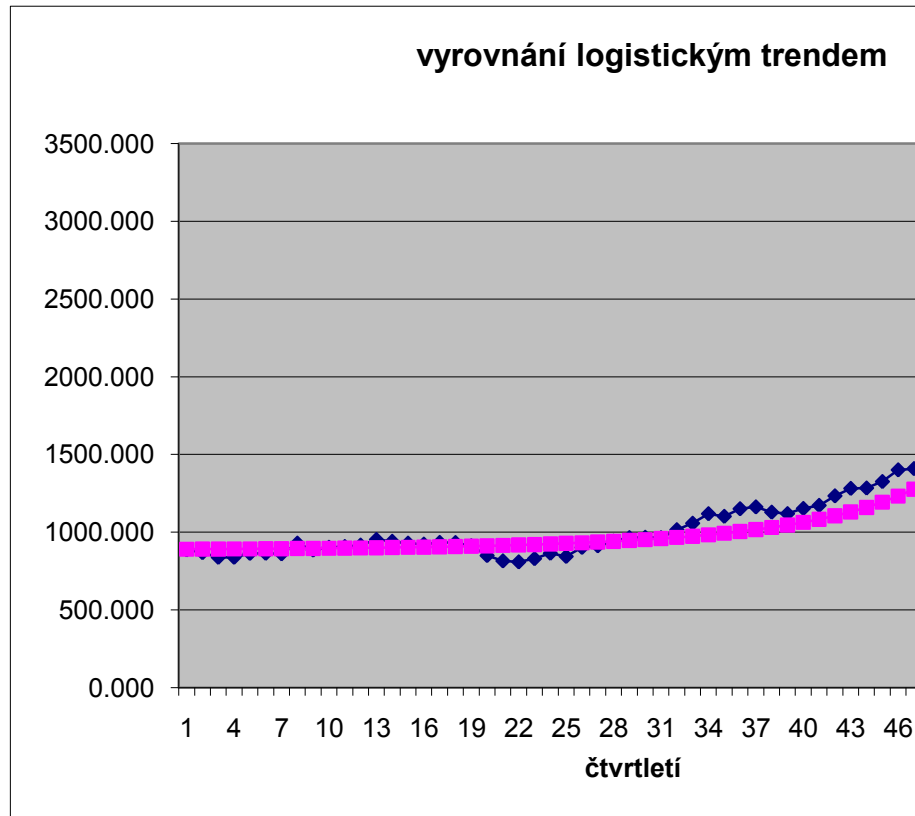


<i>čtvrtletí</i>	<i>pořadí</i>	<i>realinvs</i>	<i>vyrovnání</i>	<i>rezidua</i>	<i>abs.rezidua</i>	<i>rezidua^2</i>
1986Q1	1	886.200	890.420	-4.220	4.220	17.81
1986Q2	2	868.300	890.882	-22.582	22.582	509.93
1986Q3	3	838.000	891.386	-53.386	53.386	2850.07
1986Q4	4	838.200	891.937	-53.737	53.737	2887.64
1987Q1	5	863.400	892.538	-29.138	29.138	849.03
1987Q2	6	863.900	893.195	-29.295	29.295	858.18
1987Q3	7	860.500	893.912	-33.412	33.412	1116.36
1987Q4	8	929.300	894.695	34.605	34.605	1197.48
1988Q1	9	884.600	895.551	-10.951	10.951	119.93
1988Q2	10	902.500	896.487	6.013	6.013	36.16
1988Q3	11	907.500	897.509	9.991	9.991	99.82
1988Q4	12	916.700	898.626	18.074	18.074	326.66
1989Q1	13	952.700	899.848	52.852	52.852	2793.35
1989Q2	14	941.100	901.184	39.916	39.916	1593.30
1989Q3	15	929.300	902.645	26.655	26.655	710.47
1989Q4	16	922.900	904.245	18.655	18.655	348.02
1990Q1	17	934.000	905.995	28.005	28.005	784.27
1990Q2	18	933.000	907.912	25.088	25.088	629.42
1990Q3	19	912.600	910.011	2.589	2.589	6.70
1990Q4	20	849.600	912.312	-62.712	62.712	3932.77
1991Q1	21	815.100	914.834	-99.734	99.734	9946.86
1991Q2	22	808.800	917.600	-108.800	108.800	11837.52
1991Q3	23	829.800	920.636	-90.836	90.836	8251.23
1991Q4	24	864.200	923.970	-59.770	59.770	3572.45
1992Q1	25	843.800	927.633	-83.833	83.833	7027.99
1992Q2	26	901.800	931.661	-29.861	29.861	891.69
1992Q3	27	912.100	936.094	-23.994	23.994	575.70
1992Q4	28	941.600	940.976	0.624	0.624	0.39
1993Q1	29	964.800	946.359	18.441	18.441	340.09
1993Q2	30	967.000	952.299	14.701	14.701	216.12
1993Q3	31	964.100	958.863	5.237	5.237	27.43
1993Q4	32	1015.600	966.125	49.475	49.475	2447.82
1994Q1	33	1057.300	974.170	83.130	83.130	6910.57
1994Q2	34	1118.500	983.098	135.402	135.402	18333.65
1994Q3	35	1101.800	993.023	108.777	108.777	11832.48
1994Q4	36	1150.500	1004.077	146.423	146.423	21439.75
1995Q1	37	1162.400	1016.415	145.985	145.985	21311.51
1995Q2	38	1128.500	1030.221	98.279	98.279	9658.73
1995Q3	39	1119.100	1045.711	73.389	73.389	5386.00
1995Q4	40	1152.400	1063.142	89.258	89.258	7966.99
1996Q1	41	1172.300	1082.826	89.474	89.474	8005.60
1996Q2	42	1233.400	1105.140	128.260	128.260	16450.69
1996Q3	43	1281.400	1130.546	150.854	150.854	22757.01

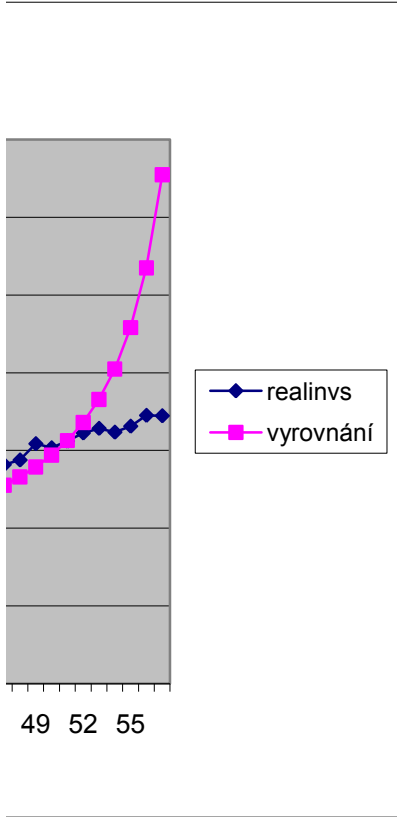
1996Q4	44	1283.700	1159.617	124.083	124.083	15396.53
1997Q1	45	1325.400	1193.074	132.326	132.326	17510.23
1997Q2	46	1400.600	1231.831	168.769	168.769	28483.02
1997Q3	47	1408.600	1277.072	131.528	131.528	17299.62
1997Q4	48	1438.500	1330.354	108.146	108.146	11695.48
1998Q1	49	1543.300	1393.770	149.530	149.530	22359.36
1998Q2	50	1516.800	1470.194	46.606	46.606	2172.08
1998Q3	51	1559.700	1563.699	-3.999	3.999	15.99
1998Q4	52	1612.100	1680.235	-68.135	68.135	4642.31
1999Q1	53	1641.800	1828.870	-187.070	187.070	34995.36
1999Q2	54	1617.400	2024.137	-406.737	406.737	165435.06
1999Q3	55	1655.800	2290.872	-635.072	635.072	403316.47
1999Q4	56	1725.400	2675.333	-949.933	949.933	902371.89
2000Q1	57	1722.900	3274.638	-1551.738	1551.738	2407891.20
2000Q2	58	1801.600	4333.190	-2531.590	2531.590	6408950.26
2000Q3	59	1788.800	6692.387	-4903.587	4903.587	24045163.77
2000Q4	60	1778.300	16472.832	-14694.532	14694.532	#####
		62892.6	65030.40228	-2137.80228	7.0601E+03	4.25044E+06

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parametr	c=	gama	0.0011295	-0.0002987		

APE	MAPE
0.005	0.005
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0.064	0.062
0.064	0.062
0.034	0.033
0.034	0.033
0.039	0.038
0.037	0.038
0.012	0.012
0.007	0.007
0.011	0.011
0.020	0.020
0.055	0.057
0.042	0.043
0.029	0.029
0.020	0.020
0.030	0.030
0.027	0.027
0.003	0.003
0.074	0.071
0.122	0.115
0.135	0.126
0.109	0.104
0.069	0.067
0.099	0.095
0.033	0.033
0.026	0.026
0.001	0.001
0.019	0.019
0.015	0.015
0.005	0.005
0.049	0.050
0.079	0.082
0.121	0.129
0.099	0.104
0.127	0.136
0.126	0.134
0.087	0.091
0.066	0.068
0.077	0.081
0.076	0.079
0.104	0.110
0.118	0.125



0.097	0.102
0.100	0.105
0.120	0.128
0.093	0.098
0.075	0.078
0.097	0.102
0.031	0.031
0.003	0.003
0.042	0.041
0.114	0.108
0.251	0.223
0.384	0.322
0.551	0.432
0.901	0.621
1.405	0.825
2.741	1.156
8.263	1.610
0.09216	0.08449



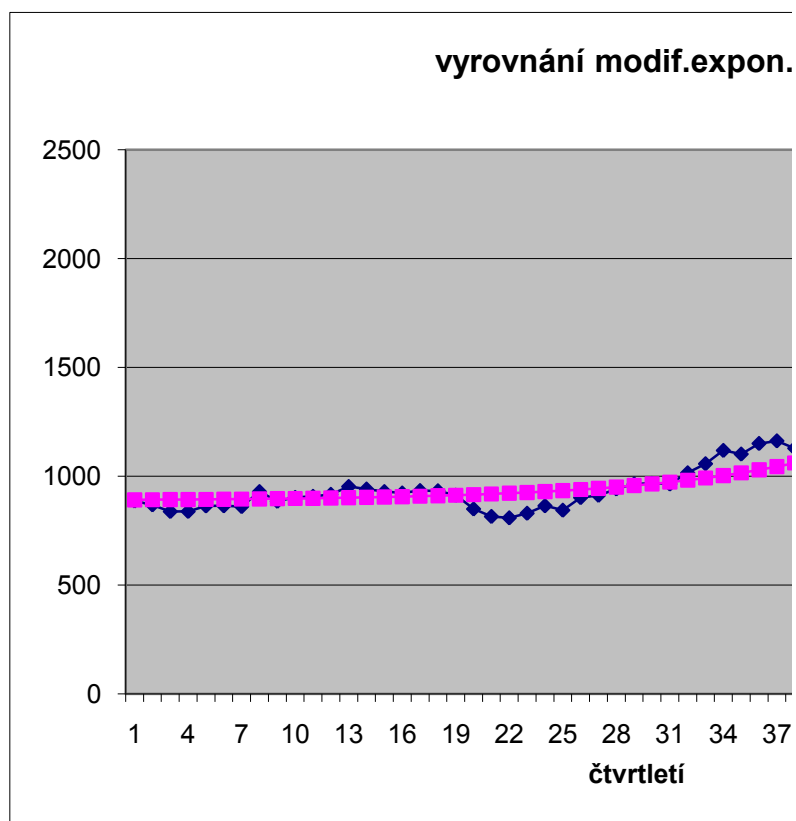
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1986Q3	3	838	892.4	-54.4	54.40	2959.835071
1986Q4	4	838.2	892.9	-54.7	54.74	2996.074249
1987Q1	5	863.4	893.5	-30.1	30.13	907.5294521
1987Q2	6	863.9	894.2	-30.3	30.28	916.6903019
1987Q3	7	860.5	894.9	-34.4	34.40	1183.229755
1987Q4	8	929.3	895.7	33.6	33.60	1129.209259
1988Q1	9	884.6	896.6	-12.0	11.98	143.5122785
1988Q2	10	902.5	897.6	4.9	4.94	24.43020038
1988Q3	11	907.5	898.6	8.9	8.86	78.51209734
1988Q4	12	916.7	899.8	16.9	16.86	284.3690084
1989Q1	13	952.7	901.2	51.5	51.54	2656.16388
1989Q2	14	941.1	902.6	38.5	38.47	1480.039967
1989Q3	15	929.3	904.3	25.0	25.05	627.4051906
1989Q4	16	922.9	906.0	16.9	16.85	283.9760557
1990Q1	17	934	908.0	26.0	25.96	674.0977876
1990Q2	18	933	910.2	22.8	22.76	518.1545296
1990Q3	19	912.6	912.7	-0.1	0.07	0.005214663
1990Q4	20	849.6	915.4	-65.8	65.77	4325.341841
1991Q1	21	815.1	918.4	-103.3	103.25	10660.58006
1991Q2	22	808.8	921.7	-112.9	112.85	12735.38706
1991Q3	23	829.8	925.3	-95.5	95.50	9121.122227
1991Q4	24	864.2	929.3	-65.1	65.15	4244.244695
1992Q1	25	843.8	933.8	-90.0	90.02	8104.084543
1992Q2	26	901.8	938.8	-37.0	36.98	1367.156812
1992Q3	27	912.1	944.3	-32.2	32.16	1034.009662
1992Q4	28	941.6	950.3	-8.7	8.72	76.07168564
1993Q1	29	964.8	957.0	7.8	7.76	60.29249839
1993Q2	30	967	964.5	2.5	2.54	6.426663409
1993Q3	31	964.1	972.7	-8.6	8.59	73.74665563
1993Q4	32	1015.6	981.8	33.8	33.81	1143.263338
1994Q1	33	1057.3	991.9	65.4	65.44	4282.488233
1994Q2	34	1118.5	1003.0	115.5	115.49	13338.95569
1994Q3	35	1101.8	1015.3	86.5	86.46	7475.069342
1994Q4	36	1150.5	1029.0	121.5	121.51	14763.71398
1995Q1	37	1162.4	1044.1	118.3	118.30	13994.06483
1995Q2	38	1128.5	1060.8	67.7	67.67	4579.830319
1995Q3	39	1119.1	1079.3	39.8	39.77	1581.471457
1995Q4	40	1152.4	1099.8	52.6	52.59	2765.273844
1996Q1	41	1172.3	1122.5	49.8	49.82	2481.843736
1996Q2	42	1233.4	1147.6	85.8	85.83	7366.983522
1996Q3	43	1281.4	1175.3	106.1	106.07	11250.1584
1996Q4	44	1283.7	1206.1	77.6	77.64	6027.853564

1997Q1	45	1325.4	1240.1	85.3	85.33	7281.611704
1997Q2	46	1400.6	1277.7	122.9	122.90	15103.45035
1997Q3	47	1408.6	1319.4	89.2	89.24	7964.333753
1997Q4	48	1438.5	1365.5	73.0	73.04	5335.533842
1998Q1	49	1543.3	1416.5	126.8	126.83	16084.96881
1998Q2	50	1516.8	1472.9	43.9	43.86	1923.999989
1998Q3	51	1559.7	1535.4	24.3	24.27	589.2424051
1998Q4	52	1612.1	1604.6	7.5	7.52	56.49149027
1999Q1	53	1641.8	1681.1	-39.3	39.32	1546.301188
1999Q2	54	1617.4	1765.8	-148.4	148.43	22031.69099
1999Q3	55	1655.8	1859.6	-203.8	203.78	41525.83396
1999Q4	56	1725.4	1963.3	-237.9	237.93	56611.7505
2000Q1	57	1722.9	2078.2	-355.3	355.26	126208.6934
2000Q2	58	1801.6	2205.2	-403.6	403.64	162925.1034
2000Q3	59	1788.8	2345.9	-557.1	557.08	310342.2468
2000Q4	60	1778.3	2501.5	-723.2	723.24	523072.8273
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parametr	c =	gama	887.4191924

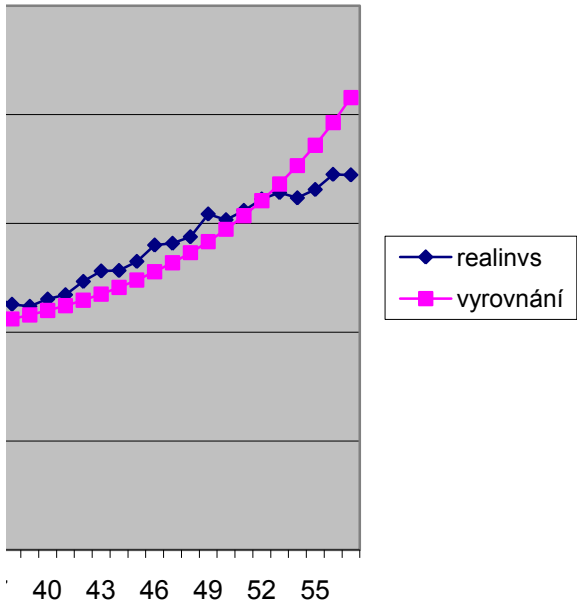
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0.0135	0.013451
0.0055	0.005492
0.0098	0.009812
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0.0183	0.018428
0.0278	0.028190
0.0244	0.024699
0.0001	0.000079
0.0774	0.074525
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0.1151	0.108831
0.0754	0.072647
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0.0410	0.040178
0.0353	0.034644
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0.0089	0.008868
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0.1056	0.111499
0.1018	0.107225
0.0600	0.061822
0.0355	0.036178
0.0456	0.046697
0.0425	0.043419
0.0696	0.072098
0.0828	0.086348
0.0605	0.062367



0.0644	0.066524
0.0877	0.091772
0.0634	0.065429
0.0508	0.052101
0.0822	0.085700
0.0289	0.029343
0.0156	0.015686
0.0047	0.004673
0.0240	0.023668
0.0918	0.087745
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0.1379	0.129005
0.2062	0.186926
0.2240	0.201475
0.3114	0.269469
0.4067	0.337974
0.055373	0.054876

. trendem



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1986Q1	1	886.2	1990Q4	20	849.6	1995Q3	39
1986Q2	2	868.3	1991Q1	21	815.1	1995Q4	40
1986Q3	3	838	1991Q2	22	808.8	1996Q1	41
1986Q4	4	838.2	1991Q3	23	829.8	1996Q2	42
1987Q1	5	863.4	1991Q4	24	864.2	1996Q3	43
1987Q2	6	863.9	1992Q1	25	843.8	1996Q4	44
1987Q3	7	860.5	1992Q2	26	901.8	1997Q1	45
1987Q4	8	929.3	1992Q3	27	912.1	1997Q2	46
1988Q1	9	884.6	1992Q4	28	941.6	1997Q3	47
1988Q2	10	902.5	1993Q1	29	964.8	1997Q4	48
1988Q3	11	907.5	1993Q2	30	967	1998Q1	49
1988Q4	12	916.7	1993Q3	31	964.1	1998Q2	50
1989Q1	13	952.7	1993Q4	32	1015.6	1998Q3	51
1998Q2	14	941.1	1994Q1	33	1057.3	1998Q4	52
1989Q3	15	929.3	1994Q2	34	1118.5	1999Q1	53
1989Q4	16	922.9	1994Q3	35	1101.8	1999Q2	54
1990Q1	17	934	1994Q4	36	1150.5	1999Q3	55
1990Q2	18	933	1995Q1	37	1162.4	1999Q4	56
1990Q3	19	912.6	1995Q2	38	1128.5	2000Q1	57
		17084.7			18397.3		

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parametr	a=	0.00280175	3.67758
parametr	c=	223.735344	887.41919

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1641.8
1617.4
1655.8
1725.4
1722.9
27410.6

hodnota	hodnota	hodnota
886.2	849.6	1119.1
868.3	815.1	1152.4
838	808.8	1172.3
838.2	829.8	1233.4
863.4	864.2	1281.4
863.9	843.8	1283.7
860.5	901.8	1325.4
929.3	912.1	1400.6
884.6	941.6	1408.6
902.5	964.8	1438.5
907.5	967	1543.3
916.7	964.1	1516.8
952.7	1015.6	1559.7
941.1	1057.3	1612.1
929.3	1118.5	1641.8
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933	1162.4	1725.4
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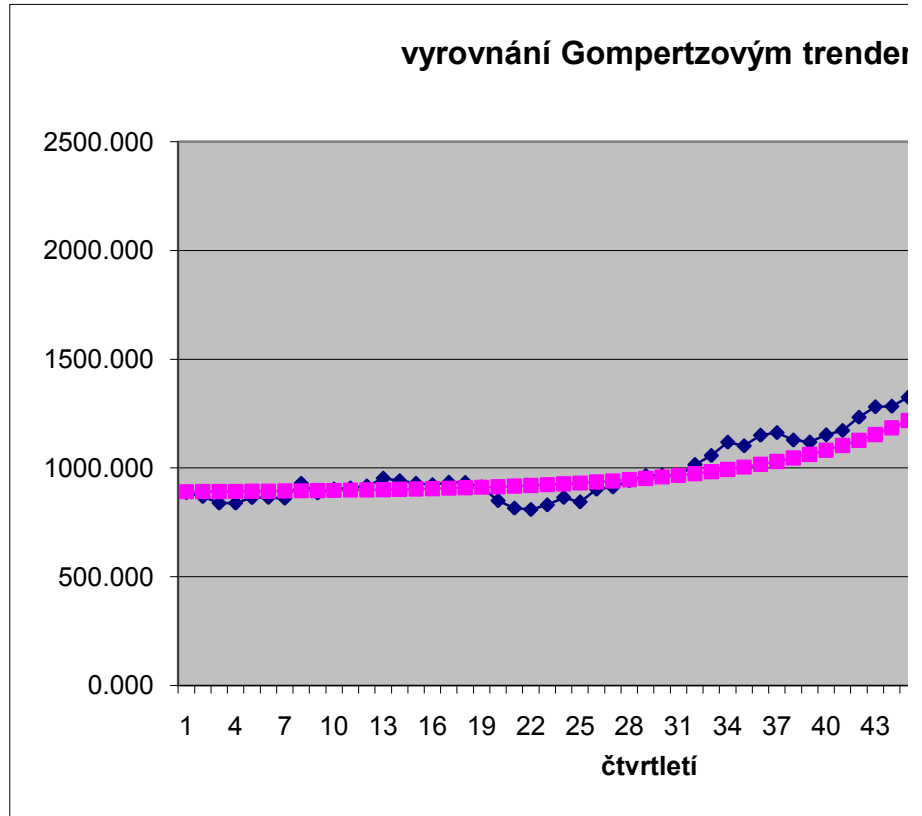
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1986Q2	2	868.300	891.327	-23.027	23.027	530.221
1986Q3	3	838.000	891.829	-53.829	53.829	2897.550
1986Q4	4	838.200	892.381	-54.181	54.181	2935.550
1987Q1	5	863.400	892.987	-29.587	29.587	875.383
1987Q2	6	863.900	893.653	-29.753	29.753	885.228
1987Q3	7	860.500	894.384	-33.884	33.884	1148.150
1987Q4	8	929.300	895.188	34.112	34.112	1163.617
1988Q1	9	884.600	896.071	-11.471	11.471	131.593
1988Q2	10	902.500	897.042	5.458	5.458	29.790
1988Q3	11	907.500	898.109	9.391	9.391	88.197
1988Q4	12	916.700	899.281	17.419	17.419	303.417
1989Q1	13	952.700	900.570	52.130	52.130	2717.538
1989Q2	14	941.100	901.987	39.113	39.113	1529.828
1989Q3	15	929.300	903.545	25.755	25.755	663.315
1989Q4	16	922.900	905.259	17.641	17.641	311.217
1990Q1	17	934.000	907.144	26.856	26.856	721.271
1990Q2	18	933.000	909.217	23.783	23.783	565.624
1990Q3	19	912.600	911.499	1.101	1.101	1.212
1990Q4	20	849.600	914.011	-64.411	64.411	4148.724
1991Q1	21	815.100	916.776	-101.676	101.676	10337.946
1991Q2	22	808.800	919.821	-111.021	111.021	12325.615
1991Q3	23	829.800	923.175	-93.375	93.375	8718.939
1991Q4	24	864.200	926.872	-62.672	62.672	3927.756
1992Q1	25	843.800	930.947	-87.147	87.147	7594.570
1992Q2	26	901.800	935.441	-33.641	33.641	1131.712
1992Q3	27	912.100	940.399	-28.299	28.299	800.856
1992Q4	28	941.600	945.873	-4.273	4.273	18.258
1993Q1	29	964.800	951.918	12.882	12.882	165.935
1993Q2	30	967.000	958.599	8.401	8.401	70.569
1993Q3	31	964.100	965.988	-1.888	1.888	3.563
1993Q4	32	1015.600	974.164	41.436	41.436	1716.945
1994Q1	33	1057.300	983.219	74.081	74.081	5487.943
1994Q2	34	1118.500	993.257	125.243	125.243	15685.789
1994Q3	35	1101.800	1004.394	97.406	97.406	9487.874
1994Q4	36	1150.500	1016.764	133.736	133.736	17885.247
1995Q1	37	1162.400	1030.519	131.881	131.881	17392.543
1995Q2	38	1128.500	1045.833	82.667	82.667	6833.766
1995Q3	39	1119.100	1062.907	56.193	56.193	3157.641
1995Q4	40	1152.400	1081.971	70.429	70.429	4960.199
1996Q1	41	1172.300	1103.293	69.007	69.007	4761.901
1996Q2	42	1233.400	1127.185	106.215	106.215	11281.724
1996Q3	43	1281.400	1154.008	127.392	127.392	16228.807
1996Q4	44	1283.700	1184.189	99.511	99.511	9902.448

1997Q1	45	1325.400	1218.231	107.169	107.169	11485.222
1997Q2	46	1400.600	1256.729	143.871	143.871	20698.838
1997Q3	47	1408.600	1300.394	108.206	108.206	11708.588
1997Q4	48	1438.500	1350.077	88.423	88.423	7818.698
1998Q1	49	1543.300	1406.806	136.494	136.494	18630.748
1998Q2	50	1516.800	1471.829	44.971	44.971	2022.347
1998Q3	51	1559.700	1546.677	13.023	13.023	169.599
1998Q4	52	1612.100	1633.233	-21.133	21.133	446.585
1999Q1	53	1641.800	1733.839	-92.039	92.039	8471.097
1999Q2	54	1617.400	1851.431	-234.031	234.031	54770.617
1999Q3	55	1655.800	1989.725	-333.925	333.925	111505.721
1999Q4	56	1725.400	2153.463	-428.063	428.063	183237.610
2000Q1	57	1722.900	2348.766	-625.866	625.866	391707.890
2000Q2	58	1801.600	2583.619	-782.019	782.019	611553.130
2000Q3	59	1788.800	2868.560	-1079.760	1079.760	1165881.055
2000Q4	60	1778.300	3217.673	-1439.373	1439.373	2071793.222
sumace			63325.1	-432.463	4695.253	1.014221E+06

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parametr	a=	alfa	0.00478
parametr	c=	gama	6.78695

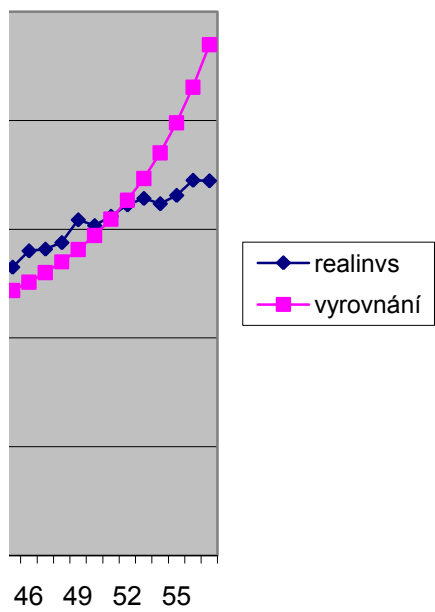
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0.034	0.034
0.039	0.039
0.037	0.037
0.013	0.013
0.006	0.006
0.010	0.010
0.019	0.019
0.055	0.056
0.042	0.042
0.028	0.028
0.019	0.019
0.029	0.029
0.025	0.026
0.001	0.001
0.076	0.073
0.125	0.117
0.137	0.128
0.113	0.107
0.073	0.070
0.103	0.098
0.037	0.037
0.031	0.031
0.005	0.005
0.013	0.013
0.009	0.009
0.002	0.002
0.041	0.042
0.070	0.073
0.112	0.119
0.088	0.092
0.116	0.123
0.113	0.120
0.073	0.076
0.050	0.052
0.061	0.063
0.059	0.061
0.086	0.090
0.099	0.105
0.078	0.081



0.081	0.084
0.103	0.108
0.077	0.080
0.061	0.063
0.088	0.093
0.030	0.030
0.008	0.008
0.013	0.013
0.056	0.055
0.145	0.135
0.202	0.183
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0.363	0.307
0.434	0.357
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0.809	0.576
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m



čtvrtletí	pořadí	loghodnota	čtvrtletí	pořadí	loghodnota	čtvrtletí	pořadí	loghodnota
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1986Q2	2	6.766537	1991Q1	21	6.703311	1995Q4	40	7.049602
1986Q3	3	6.731018	1991Q2	22	6.695552	1996Q1	41	7.066723
1986Q4	4	6.731257	1991Q3	23	6.721185	1996Q2	42	7.11753
1987Q1	5	6.760878	1991Q4	24	6.761804	1996Q3	43	7.155709
1987Q2	6	6.761457	1992Q1	25	6.737915	1996Q4	44	7.157502
1987Q3	7	6.757514	1992Q2	26	6.804393	1997Q1	45	7.18947
1987Q4	8	6.834432	1992Q3	27	6.81575	1997Q2	46	7.244656
1988Q1	9	6.785136	1992Q4	28	6.847581	1997Q3	47	7.250352
1988Q2	10	6.805169	1993Q1	29	6.871921	1997Q4	48	7.271356
1988Q3	11	6.810694	1993Q2	30	6.874198	1998Q1	49	7.341678
1988Q4	12	6.82078	1993Q3	31	6.871195	1998Q2	50	7.324358
1989Q1	13	6.8593	1993Q4	32	6.923235	1998Q3	51	7.352249
1998Q2	14	6.847049	1994Q1	33	6.963474	1998Q4	52	7.385293
1989Q3	15	6.834432	1994Q2	34	7.019744	1999Q1	53	7.403548
1989Q4	16	6.827521	1994Q3	35	7.0047	1999Q2	54	7.388575
1990Q1	17	6.839476	1994Q4	36	7.047952	1999Q3	55	7.41204
1990Q2	18	6.838405	1995Q1	37	7.058242	1999Q4	56	7.453214
1990Q3	19	6.816298	1995Q2	38	7.028645	2000Q1	57	7.451764
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parametr	a=	0.003732	0.00478
parametr	c=	0.262283	6.78695

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838	808.8	1172.3
838.2	829.8	1233.4
863.4	864.2	1281.4
863.9	843.8	1283.7
860.5	901.8	1325.4
929.3	912.1	1400.6
884.6	941.6	1408.6
902.5	964.8	1438.5
907.5	967	1543.3
916.7	964.1	1516.8
952.7	1015.6	1559.7
941.1	1057.3	1612.1
929.3	1118.5	1641.8
922.9	1101.8	1617.4
934	1150.5	1655.8
933	1162.4	1725.4
912.6	1128.5	1722.9

čtvrtletí	pořadí	hodnota	čtvrtletí	pořadí	hodnota	čtvrtletí	pořadí
1993Q1	1	179342.9	1997Q4	20	473921.5	2002Q3	39
1993Q2	2	179879.6	1998Q1	21	493387.1	2002Q4	40
1993Q3	3	184157.9	1998Q2	22	512073.8	2003Q1	41
1993Q4	4	204782.7	1998Q3	23	527451.8	2003Q2	42
1994Q1	5	215145.3	1998Q4	24	549745.5	2003Q3	43
1994Q2	6	220120.4	1999Q1	25	559644.4	2003Q4	44
1994Q3	7	224857.6	1999Q2	26	554565.3	2004Q1	45
1994Q4	8	244498.9	1999Q3	27	542409.4	2004Q2	46
1995Q1	9	257013.4	1999Q4	28	536933.7	2004Q3	47
1995Q2	10	268251.6	2000Q1	29	548175	2004Q4	48
1995Q3	11	280707.7	2000Q2	30	543395.4	2005Q1	49
1995Q4	12	306236.9	2000Q3	31	547678.9	2005Q2	50
1996Q1	13	320848.6	2000Q4	32	549152.9	2005Q3	51
1996Q2	14	329595.1	2001Q1	33	568758.9	2005Q4	52
1996Q3	15	336112.3	2001Q2	34	583195.2	2006Q1	53
1996Q4	16	365625.2	2001Q3	35	589675.9	2006Q2	54
1997Q1	17	414840.1	2001Q4	36	595970.9	2006Q3	55
1997Q2	18	441183	2002Q1	37	596536.5	2006Q4	56
1997Q3	19	443649.1	2002Q2	38	594155.3	2007Q1	57
		5416848.3			10466827.4		

hodnota
580665.6
567335.8
560701.5
553728.3
548450.7
558026.2
557442.5
563668.2
569176.8
587564.8
584631.3
589489.7
582149.8
599177.5
597108
604796.4
606284.6
630641.9
636801.4
11077841