				-
Years	Months	Number of people	Fn/Fn-1	
0.0	00	0		
	01	1		
	02	1	1.000000	
	03	2	2.000000	
	04	3	1.500000	
	05	5	1.666667	
0.5	06	8	1.600000	
	07	13	1.625000	
	08	21	1.615385	
	09	34	1.619048	
	10	55	1.617647	
	11	89	1.618182	
1.0	12	144	1.617978	
	13	233	1.618056	
	14	377	1.618026	1
	15	610	1.618037	
	16	987	1.618033	←
	17	1.597	1.618034	Golden
1.5	18	2,584	1.618034	ratio
	19	4,181	1.618034	
	20	6,765	1.618034	
	21	10,946	1.618034	
	22	17,711	1.618034	
	23	28.657	1.618034	
2.0	24	46,368	1.618034	
2.0	25	75.025	1.618034	
	26	121,393	1.618034	
	27	196 418	1 618034	
	28	317,811	1.618034	
	29	514 229	1 618034	
25	30	832 040	1 618034	
2.0	31	1.346.269	1.618034	
	32	2 178 309	1 618034	
	33	3 524 578	1 618034	
	34	5 702 887	1 618034	
	35	9 227 465	1 618034	
3.0	36	14 930 352	1 618034	
0.0	37	24 157 817	1 618034	
	38	39 088 169	1 618034	
	39	63 245 986	1 618034	
	40	102 334 155	1 618034	
	41	165 580 141	1 618034	
3.5	42	100,000,141	1.010004	
0.0	43			
	44			
	45			
	46			
	40			
40	47			
T.U				

The Number of People who Carry Inflational Expectations (Logarithmic Graph)

(It becomes a whirl when it rotates)



As to cellular slime mold, a swarm is organized through chain reactions of a chemical substance called cAMP. One who felt food shortage puts out a strong signal. One who noticed a signal also puts out a signal. At the time of the chain reactions, spiral waves appear. The members start to gather toward the center of the spiral. Human stories (rumor/hearsay/word-of-mouth/information/etc.) spread like cAMP. \leq See: "Seimei-shi Journal" \rightarrow http://www.brh.co.jp/seimeishi/journal/65/research_1.html#a01>

 Ralph N. Elliott was the first person who found the relationship between the speculation and this chain reaction.

 <See: "Ralph N. Elliott" → http://en.wikipedia.org/wiki/Ralph Nelson Elliott >

 <See: "Fibonacci number" → http://en.wikipedia.org/wiki/Fibonacci number >

In reality, it would not spread in an ideal shape like above. We need statistics. Influenza is transmitted largely in a school or crowded train. There would be a same phenomenon in our stories. Whereas, it would be certain that a basic information transfer system like this would exist all the time in human history.

The Number of People in Exponent

(Following the result of above table, it draws a near-straight line)

 $P = Log_a(X)$

XaPNumberFixed valueExponent011100.00000021100.00000032100.30103043100.47712055100.68997068100.90390713101.113440821101.32222099.34101.31481055101.740361189109.0289912144102.1583613233102.3673614377102.5763415610102.7853315610102.20899171.597103.2030170.597103.2030170.9664.03262182.584104.1229194.181103.6217206.765103.830272110.9464.457232328.657104.87521244.638104.66222575.025104.875212612.1939105.921728317.811105.9217295.4658106.9459311.346.269106.3211323.924.578106.7111333.524.578106.76569345.702.86710 <t< th=""><th>In E</th><th>xponent</th><th></th><th colspan="3">Approximate straight line</th></t<>	In E	xponent		Approximate straight line			
NumberFixed valueExponentxay011100.00000010.20899-0.14101021100.00000020.208990.06798032100.301030.208990.268990.68484068100.90309060.208990.68484068100.90309060.208990.69484068101.32222090.311301.12910821101.32222080.208991.321900934101.53148090.208991.321901189101.94399110.208991.5308912144102.1583130.208992.15785132.03102.97483150.208992.1578516987102.99432170.208992.93800171.597103.8027200.208993.829752110.946104.03262210.208993.829752217,71104.45723200.208993.829752331,811105.2918230.208994.247332446,368104.6622240.208995.9165232,178,309106.33812313.020896.3360333.524.578106.54711330.208995.9165		Х	а	Р			y=ax-0.35
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $		Number	Fixed value	Exponent	x	а	У
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	01	1	10	0.00000	01	0.20899	-0.14101
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	02	1	10	0.00000	02	0.20899	0.06798
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	03	2	10	0.30103	03	0.20899	0.27696
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	04	3	10	0.47712	04	0.20899	0.48595
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	05	5	10	0.69897	05	0.20899	0.69494
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	06	8	10	0.90309	06	0.20899	0.90393
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	07	13	10	1.11394	07	0.20899	1.11291
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	08	21	10	1.32222	08	0.20899	1.32190
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	09	34	10	1.53148	09	0.20899	1.53089
1189101.9493912144102.15836132.233102.6673414377102.5763415610102.7853315610102.7853316987102.99432171.597103.20330170.208992.36684182.584103.41229182.584103.41229194.181103.62128194.181103.62128190.208993.829752110.946104.039262217.711104.24824222.020894.247332328.657104.875212446.368104.666222446.368104.666222575.025104.8752126121.393105.0814926121.393105.081728317.811105.5021728317.811105.50217295.14,229106.7111630832,040106.3812322.178,309106.3381233.524,578106.5471134.0208995.50165359.227,465106.96508359.227,465106.965083614.930.352107.74073614.930.352 <td< td=""><td>10</td><td>55</td><td>10</td><td>1.74036</td><td>10</td><td>0.20899</td><td>1.73988</td></td<>	10	55	10	1.74036	10	0.20899	1.73988
12144102.1583613233102.3673614377102.576315610102.7853316987102.99432171.597103.20330171.597103.20330194.181103.62128194.181103.62128206.765103.3027206.765103.30272110.946104.039262217.711104.4824222.020894.247732328.657104.457232446.368104.666222446.368104.66222575.025104.4572326121.393105.0841926121.393105.0841926121.393105.021728317.811105.5021728317.811105.5021729514.229106.3760333.524.578106.5471130832.040107.592053724.157.817107.383063614.930.352107.714073614.930.352107.714073614.930.352107.712073724.157.817107.801033963.245.986107.801033963.245.986107.80103<	11	89	10	1.94939	11	0.20899	1.94886
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	12	144	10	2.15836	12	0.20899	2.15785
14 377 10 2.57634 14 0.20899 2.57583 15 610 10 2.78431 15 0.20899 2.78481 16 987 10 2.99432 16 0.20899 2.99380 17 1.597 10 3.20330 17 0.20899 3.20279 18 2.584 10 3.41229 18 0.20899 3.62077 20 6.765 10 3.8027 20 0.20899 3.62077 20 6.765 10 4.83027 20 0.20899 4.62732 21 10.946 0 4.03926 21 0.20899 4.03874 22 17.711 10 4.45723 23 0.20899 4.45672 24 46.368 10 4.65273 23 0.20899 4.45672 24 46.368 10 4.65273 23 0.20899 4.24733 24 46.368 10 4.65273 23 0.20899 5.08368 27 196.418 10 5.29217 25 0.20899 5.50165 29 514.229 10 5.71116 30 0.20899 5.50165 32 $2.178.309$ 10 6.12812 31 0.20899 5.50165 33 $3.524.578$ 10 6.54711 33 0.20899 5.50165 35 $9.227.465$ 10 6.75609 34 0.20899 7.38254 39 <	13	233	10	2.36736	13	0.20899	2.36684
15610102.7853315 0.20899 2.7848116987102.9943216 0.20899 2.99380171.597103.2030017 0.20899 3.20279182.584103.4122917 0.20899 3.6207720 6.765 103.8302720 0.20899 3.620772110.94610 4.03926 21 0.20899 3.62077 2110.94610 4.03926 21 0.20899 3.62077 2328.65710 4.45723 23 0.20899 4.6570 2446.36810 4.66622 24 0.20899 4.66570 2575.02510 4.87521 25 0.20899 4.87469 2612.133310 5.08169 26 0.20899 5.01656 27196.41810 5.29318 27 0.20899 5.501656 28317.81110 5.50217 28 0.20899 5.501656 33 $3.524.578$ 10 6.12913 31 0.20899 5.519656 34 $5.702.887$ 10 6.54711 33 0.20899 7.59153 35 $9.227.465$ 10 6.96508 35 0.20899 7.59153 36 $1.4.930.352$ 10 7.17407 36 0.20899 7.59153 39 $63.245.986$ 10 7.80103 39 0.20899 7.59153 39 $63.$	14	377	10	2.57634	14	0.20899	2.57583
16 987 10 2.99432 16 0.20899 2.99380 17 1.597 10 3.20330 17 0.20899 3.20279 18 2.584 10 3.41229 18 0.20899 3.41178 19 4.181 10 3.62277 19 0.20899 3.62077 20 6.765 10 3.83027 20 0.20899 3.62077 21 10.946 10 4.03926 21 0.20899 4.62773 22 17.711 10 4.24824 22 0.20899 4.24773 23 28.657 10 4.45723 23 0.20899 4.66570 25 75.025 10 4.87521 25 0.20899 4.87469 26 121.393 10 5.08419 26 0.20899 5.08368 27 196.418 10 5.2918 27 0.20899 5.50165 29 514.229 10 5.71116 29 0.20899 5.50165 30 832.040 10 5.92014 31 0.20899 6.33760 31 $1.346.269$ 10 6.12913 31 0.20899 6.33760 33 $3.524.578$ 10 6.76699 34 0.20899 7.59553 35 $9.227.465$ 10 6.76609 34 0.20899 7.59553 39 $6.345.986$ 10 7.17407 36 0.20899 7.8052 <td< td=""><td>15</td><td>610</td><td>10</td><td>2.78533</td><td>15</td><td>0.20899</td><td>2.78481</td></td<>	15	610	10	2.78533	15	0.20899	2.78481
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	16	987	10	2.99432	16	0.20899	2.99380
182,58410 3.41229 194,18110 3.62128 20 $6,765$ 10 3.83027 2110.94610 4.03926 2217.71110 4.24824 2328.65710 4.33262 24 $46,368$ 10 4.66622 2575.02510 4.8723 26121,39310 5.08419 27196,41810 5.29318 27196,41810 5.29318 29514,22910 5.71116 30832,04010 5.92014 311,346,26910 6.12913 322,178,30910 6.33812 333,524,57810 6.54711 34 $5.702,887$ 10 6.75609 359,227,46510 6.96508 359,227,46510 7.17407 3614,930,35210 7.17407 3614,930,35210 7.17407 3724,157,81710 7.38306 39 $63,245,986$ 10 7.80103 40102,334,15510 8.01002 41165,580,14110 8.21901 424344454646474848	17	1,597	10	3.20330	17	0.20899	3.20279
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	18	2,584	10	3.41229	18	0.20899	3.41178
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	19	4,181	10	3.62128	19	0.20899	3.62077
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	20	6,765	10	3.83027	20	0.20899	3.82975
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	21	10,946	10	4.03926	21	0.20899	4.03874
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	22	17,711	10	4.24824	22	0.20899	4.24773
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	23	28,657	10	4.45723	23	0.20899	4.45672
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	24	46,368	10	4.66622	24	0.20899	4.66570
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	25	75,025	10	4.87521	25	0.20899	4.87469
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	26	121,393	10	5.08419	26	0.20899	5.08368
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	27	196,418	10	5.29318	27	0.20899	5.29267
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	28	317,811	10	5.50217	28	0.20899	5.50165
30 832,040 10 5.92014 31 1,346,269 10 6,12913 32 2,178,309 10 6,33812 33 3,524,578 10 6,54711 34 5,702,887 10 6,54711 35 9,227,465 10 6,96508 35 9,227,465 10 6,96508 37 24,157,817 10 7,17407 38 39,088,169 10 7,59205 39 63,245,986 10 7,80103 40 102,334,155 10 8,01002 41 165,580,141 10 8,21901 42 43 43 44 45 46 44 44 44 45 46 47 48 48	29	514,229	10	5.71116	29	0.20899	5.71064
31 1,346,269 10 6.12913 31 0.20899 6.12862 32 2,178,309 10 6.33812 32 0.20899 6.33760 33 3,524,578 10 6.54711 33 0.20899 6.54659 34 5,702,887 10 6.75609 34 0.20899 6.54659 35 9,227,465 10 6.96508 35 0.20899 6.96457 36 14,930,352 10 7.17407 36 0.20899 7.38254 37 24,157,817 10 7.38306 37 0.20899 7.38254 39 63,245,986 10 7.59205 38 0.20899 7.59153 39 63,245,986 10 7.80103 39 0.20899 7.80052 40 102,334,155 10 8.01002 40 0.20899 8.21849 42 43 44 43 44 43 44 43 44 44 44 44 44 45 46 46 47 48	30	832,040	10	5.92014	30	0.20899	5.91963
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	31	1,346,269	10	6.12913	31	0.20899	6.12862
33 3,524,578 10 6,54711 33 0.20899 6,54659 34 5,702,887 10 6,75609 34 0.20899 6,7558 35 9,227,465 10 6,96508 35 0.20899 6,96457 36 14,930,352 10 7,17407 36 0.20899 7,17355 37 24,157,817 10 7,38306 37 0.20899 7,38254 38 39,088,169 10 7,59205 38 0.20899 7,59153 39 63,245,986 10 7,80103 39 0.20899 7,80052 40 102,334,155 10 8.01002 40 0.20899 8.00951 41 165,580,141 10 8.21901 41 0.20899 8.21849 42 43 44 44 44 44 44 44 45 46 44 44 44 44 44 44 44 44 44 44 44 44 44 44 45 46 46 47 4	32	2,178,309	10	6.33812	32	0.20899	6.33760
34 5,702,887 10 6,75609 34 0.20899 6,7558 35 9,227,465 10 6,96508 35 0.20899 6,96457 36 14,930,352 10 7,17407 36 0.20899 7,17355 37 24,157,817 10 7,38306 37 0.20899 7,38254 38 39,088,169 10 7,59205 38 0.20899 7,59153 39 63,245,986 10 7,80103 39 0.20899 7,80052 40 102,334,155 10 8,01002 40 0.20899 8,00951 41 165,580,141 10 8,21901 41 0.20899 8,21849 42 43 44 44 44 44 44 44 44 44 44 44 44 44 44 44 44 44 44 44 44 44 44 44 44 44 44 44 44	33	3,524,578	10	6.54711	33	0.20899	6.54659
35 9,227,465 10 6,96508 35 0.20899 6,96457 36 14,930,352 10 7.17407 36 0.20899 7.17355 37 24,157,817 10 7.38306 37 0.20899 7.38254 38 39,088,169 10 7.59205 38 0.20899 7.80153 39 63,245,986 10 7.80103 39 0.20899 7.80052 40 102,334,155 10 8.01002 40 0.20899 8.00951 41 165,580,141 10 8.21901 41 0.20899 8.21849 42 43 44 42 43 44 44 44 44 44 44 44 44 44 44 44 44 44 44 44 44 44 44 44 44 44 44 44 44 44 44 44 44 44 45 46 47 48	34	5,702,887	10	6.75609	34	0.20899	6.75558
36 14,930,352 10 7.17407 36 0.20899 7.17355 37 24,157,817 10 7.38306 37 0.20899 7.38254 38 39,088,169 10 7.59205 38 0.20899 7.38254 39 63,245,986 10 7.80103 39 0.20899 7.80052 40 102,334,155 10 8.01002 40 0.20899 8.00951 41 165,580,141 10 8.21901 41 0.20899 8.21849 42 43 44 43 43 44 45 45 46 47 48 48 48 48 47 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48	35	9,227,465	10	6.96508	35	0.20899	6.96457
37 24,157,817 10 7,38306 37 0.20899 7,38254 38 39,088,169 10 7,59205 38 0.20899 7,59153 39 63,245,986 10 7,80103 39 0.20899 7,80052 40 102,334,155 10 8,01002 40 0.20899 8,00951 41 165,580,141 10 8,21901 41 0.20899 8,21849 42 43 44 43 44 45 46 44 45 46 47 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48<	36	14,930,352	10	7.17407	36	0.20899	7.17355
38 39,088,169 10 7.59205 38 0.20899 7.59153 39 63,245,986 10 7.80103 39 0.20899 7.8052 40 102,334,155 10 8.01002 40 0.20899 8.00951 41 165,580,141 10 8.21901 41 0.20899 8.21849 42 43 44 43 43 44 45 46 45 46 46 47 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48 48	37	24,157,817	10	7.38306	37	0.20899	7.38254
39 63,245,986 10 7.80103 39 0.20899 7.80052 40 102,334,155 10 8.01002 40 0.20899 8.00951 41 165,580,141 10 8.21901 41 0.20899 8.20891 42 43 44 42 43 44 43 45 46 45 46 45 47 48 48 48 48	38	39,088,169	10	7.59205	38	0.20899	7.59153
40 102,334,155 10 8.01002 40 0.20899 8.00951 41 165,580,141 10 8.21901 41 0.20899 8.21849 42 43 44 43 44 43 44 45 46 45 46 46 47 48 48 48 48	39	63,245,986	10	7.80103	39	0.20899	7.80052
41 165,580,141 10 8.21901 41 0.20899 8.21849 42 43 44 43 43 44 45 46 45 46 46 47 48 48 48 48	40	102,334,155	10	8.01002	40	0.20899	8.00951
42 42 43 43 44 43 45 44 46 45 47 48	41	165,580,141	10	8.21901	41	0.20899	8.21849
43 43 44 44 45 44 46 45 47 48	42				42		
44 44 45 45 46 46 47 47 48 48	43				43		
45 45 46 46 47 47 48 48	44				44		
46 46 47 47 48 48	45				45		
47 47 48 48	46				46		
48 48	47				47		
	48				48		



(Note)

It often comes to rotate in nature like a whirl --> Spiral shell, Seeds of sunflower, etc.

Here appeared some common views with Econophysics in the following points. Econophysics

Genes of herd behavior would be employing the laws of nature, i.e., chain reaction, criticality, and phase transition. Even so, as some external powers (ex.: efficiency, etc.) would be working, it does not continue infinitely.

There is a possibility that many of forceful events in the human history had occurred as results of the human herd behaviors.