8

3

2004

2008

-

-

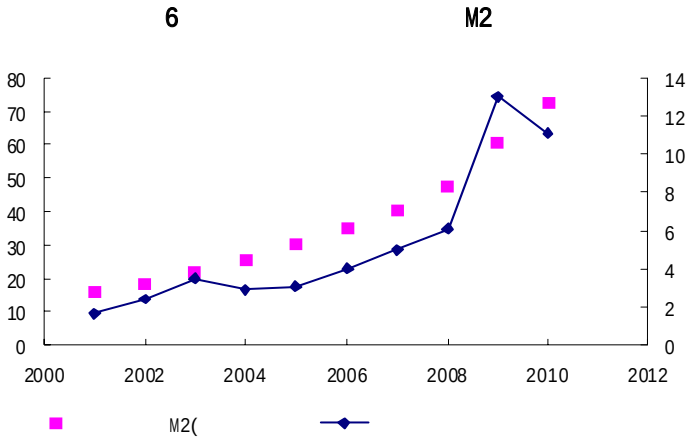
1/4

5

M2 M2

M2

M2


6
M2
80
70
60
50
40
30
20
10
0
14
12
10
8
6
4
2
0
2000
2002
2004
2006
2008
2010
2012
M2(

[1]Celine Rochon1 Rochon, Herakles Polemarchakis. Debt, liquidity and dynamics[J]. Economic Theory, 2006, (27): 179-211.

[2]David Kelly, Stephen LeRoy. Liquidity and Liquidation[J]. Economic Theory, 2007,(31), 553-572.

[3]Sauer, Stephan. Liquidity Risk and Monetary Policy[R]. University of Munich, 2007.

[4]Kewei Hou. Liquidity Risk and Asset Pricing[R]. the Ohio State University, 2006

[5]Thersten Polleit. Measures of Exeess Liquidity[R]. Business School of Finance and Management 2005.

[6]Tobias Adrian. Liquidity, Monetary Policy and Financial Cyele[R]. Current Issues in Eeonomics and Finanee, 2007

[7]Junfeng Qiu. Bank money, aggregate liquidity, and asset prices[J]. Annals of Economics and Finance, 2011, (12), 295-346.

[8]Magnus Saxegaard. Excess Liquidity and the Effectiveness of Monetary Policy: Evidence from Sub-Saharan Africa[J]. IMF Working Papers, 2006.

[9]Gary Gorton, Andrew Metrick. Regulating the Shadow Banking System[R]. Brookings Papers on Economic Activity, 2010, (41), 261-312.

[10]Jeffrey J. Hallman, Richard D. Porter, David H. Small. M2 per unit of potential GNP as an anchor for the price level[R]. Board of Governors of the Federal Reserve System, 1989.

[11]Goyenko, Holden. Do liquidity measures measure liquidity?[R]. Journal of Financial Economics, 2009, (92), 153-181.

[12] . [R]. , 2011, (3) 18-27.

[13] . [R]. , 2008.

[14] . [M]. , 2006.

[15] . [R]. , 2011.

[16] .

[J]. , 2011, (1).

[17] . 1978 2009 [D]. ,

2010

[18] . [R]. , 2008, (1), 4~8.

[19] . [J]. , 2007, (11), 44~55.

[20] . [M]. , 1996.

[21] . [M]. ,1999.

[22] . 1998 [J]. , 2004 (11), 98~103.

本文利用包含人力资本的内生增长模型，定量分析了减税对我国宏观经济的影响。研究发现：无论是降低消费税、个人所得税还是企业所得税的税率均可以提高长期经济增长率。在分别降低流转税、个人所得税和企业所得税的税率均使得经济增长率提高 5%的情况下，本文具体分析了减税对宏观经济的长期稳态及转移过程的主要影响。减税将会促使消费加速增长，但消费占 GDP 的比重将出现下降；减税将导致税前资本回报提高，而对税前劳动回报的影响则因所选择减税税种的不同而不同；减税将会导致政府税收收入占 GDP 比重下降和政府债务占 GDP 比重上升，但调整幅度相对有限；相比于消费税和个人所得税，企业所得税降低的短期经济增长效果更为明显；降低消费税或个人所得税对居民福利基本没有影响，而降低企业所得税率将会使得居民福利下降 0.5%。

GDP

1994 GDP

GDP 1996

GDP 1996 9.7% 2010 18.3% 10.4%

20.7%

27.4% 29.5%

[1]

1

1 2010

“ ” “ ”

2011

2002

2004

2010

2007 1 0.4

House and Shapiro 2006 Uhlig 2010 Trabandt and Uhlig

1

2011

King and Rebelo 1990 Jones et al. 1993 Trabandt and Uhlig 2011

90%

2002 2010

68.8% 1

18.2% 7%

[1] 2002 2002 2010 2002 2010

$$U = E_0 \sum_{t=0}^{\infty} \beta^t \frac{(C_t l_t^{\varepsilon})^{1-\theta}}{1-\theta}$$

2010 2007 69.6%

0.65 1.86

23.5%

3%

0.7%

$$K_{t+1} = K_t(1-\delta) + I_t \qquad 4$$

1

2 3 4

η_t λ_t q_t

C_t

$$C_t^{-\theta} l_t^{\varepsilon(1-\theta)} = \lambda_t(1+\tau_t^c) \qquad 5$$

u_t

$$\varepsilon C_t^{1-\theta} l_t^{\varepsilon(1-\theta)-1} = \lambda_t (1-\tau_t^n) w_t H_t \qquad 6$$

$(1-\tau_t^n) w_t H_t$

λ_t

z_t

$$\varepsilon C_t^{1-\theta} l_t^{\varepsilon(1-\theta)-1} = \eta_t A_h H_t \qquad 7$$

$A_h H_t$ η_t

H_{t+1}

$$\eta_t = \beta\left[\lambda_{t+1}(1-\tau_{t+1}^n) w_{t+1} u_{t+1} + \eta_{t+1}(1+A_h z_{t+1} - \delta_h)\right] \qquad 8$$

K_{t+1}

$$q_t = \beta\left[\lambda_{t+1} r_{t+1} + q_{t+1}(1-\delta)\right] \qquad 9$$

q_t

$\lambda_{t+1} r_{t+1}$

$q_{t+1}(1-\delta)$

I_t

$$q_t = \lambda_t \qquad 10$$

5

6 5 9 10

5 6

6 7 8

13 9 10

$$Y_t = K_t^{\alpha}(u_t H_t)^{1-\alpha} \qquad 11$$

$$\pi_t = Y_t - w_t u_t H_t$$

$$r_t K_t = (1-\tau_t^e)(Y_t - w_t u_t H_t) + \tau_t^e \delta K_t$$

$$w_t = (1-a)\frac{Y_t}{u_t H_t} \qquad 12$$

10

$$r_t = (1-\tau_t^e)a\frac{Y_t}{K_t} + \tau_t^e \delta \qquad 13$$

$$G_t + T_t = \tau_t^c C_t + \tau_t^n w_t u_t H_t + \tau_t^e (Y_t - w_t u_t H_t - \delta K_t) \qquad 14$$

GDP

$$G_t = \tau_G Y_t \qquad 15$$

$$Y_t = C_t + I_t + G_t \qquad 16$$

Balanced Growth Path Y_t C_t I_t K_t H_t G_t 1+g

$\eta_t \quad \lambda_t \quad q_t \quad (1+g)^{-\theta} \quad l_t$

$u_t \quad z_t \quad y_t = \frac{Y_t}{H_t} \quad c_t = \frac{C_t}{H_t} \quad i_t = \frac{I_t}{H_t}$

$k_t = \frac{K_t}{H_t} \quad \overline{\eta}_t = \frac{\eta_t}{H_t^{-\theta}} \quad \overline{\lambda}_t = \frac{\lambda_t}{H_t^{-\theta}} \quad \overline{q}_t = \frac{q_t}{H_t^{-\theta}}$

$$1 = l_t + u_t + z_t \quad (1)$$

$$g_{t+1} = A_h z_t - \delta_h \quad (2)$$

$$k_{t+1}(1+g_{t+1}) = k_t(1-\delta) + i_t \quad (4)$$

$$c_t^{-\theta} l_t^{\varepsilon(1-\theta)} = \overline{\lambda}_t(1+\tau_t^c) \quad (5)$$

$$\varepsilon c_t^{1-\theta} l_t^{\varepsilon(1-\theta)-1} = \overline{\lambda}_t(1-\tau_t^n) w_t \quad (6)$$

$$\varepsilon c_t^{1-\theta} l_t^{\varepsilon(1-\theta)-1} = \overline{\eta}_t A_h \quad (7)$$

$$\overline{\eta}_t = \beta(1+g_{t+1})^{-\theta}\left[\overline{\lambda}_{t+1}(1-\tau_{t+1}^n) w_{t+1} u_{t+1} + \overline{\eta}_{t+1}(1+A_h z_{t+1} - \delta_h)\right] \quad (8)$$

$$\overline{q}_t = \beta(1+g_{t+1})^{-\theta}\left[\overline{\lambda}_{t+1} r_{t+1} + \overline{q}_{t+1}(1-\delta)\right] \quad (9)$$

$$\overline{q}_t = \overline{\lambda}_t \quad (10)$$

$$y_t = k_t^{\alpha} u_t^{1-a} \quad (11)$$

$$w_t = (1-a)\frac{y_t}{u_t} \quad (12)$$

$$r_t = (1-\tau_t^e) a \frac{y_t}{k_t} + \tau_t^e \delta \quad (13)$$

$$\frac{G_t}{Y_t} y_t + \frac{T_t}{Y_t} y_t = \tau_t^c c_t + \tau_t^n w_t u_t + \tau_t^e (y_t - w_t u_t - \delta k_t) \quad (14)$$

$$\frac{G_t}{Y_t} = \tau_G \quad (15)$$

$$y_t = c_t + i_t + \frac{G_t}{Y_t} y_t \quad (16)$$

$$1 = l + u + z \quad (1)$$

$$g = A_h z - \delta_h \quad (2)$$

$$k(\delta + g) = i \quad (4)$$

$$c^{-\theta} l^{\varepsilon(1-\theta)} = \overline{\lambda}(1+\tau^c) \quad (5)$$

$$\varepsilon c^{1-\theta} l^{\varepsilon(1-\theta)-1} = \overline{\lambda}(1-\tau^n) w \quad (6)$$

$$\varepsilon c^{1-\theta} l^{\varepsilon(1-\theta)-1} = \overline{\eta} A_h \quad (7)$$

$$\overline{\eta} = \beta(1+g)^{-\theta}\left[\overline{\lambda}(1-\tau^n) w u + \overline{\eta}(1+A_h z - \delta_h)\right] \quad (8)$$

$$\overline{q} = \beta(1+g)^{-\theta}\left[\overline{\lambda} r + \overline{q}(1-\delta)\right] \quad (9)$$

$$\overline{q} = \overline{\lambda} \quad (10)$$

$$y = k^{\alpha} u^{1-a} \quad (11)$$

$$w = (1-a)\frac{y}{u} \quad (12)$$

$$r = (1-\tau^e)a\frac{y}{k} + \tau^e\delta \quad (13)$$

$$\frac{G}{Y}y + \frac{T}{Y}y = \tau^c c + \tau^n wu + \tau^e(y - wu - \delta k) \quad (14)$$

$$\frac{G}{Y} = \tau_G \quad (15)$$

$$y = c + i + \frac{G}{Y}y \quad (16)$$

α δ δ_h θ

β

ε A_h τ^c τ^e τ^n

τ_G

Chow and Li 2002 0.628

2004 0.692 2007 0.651

2006 0.65 0.65

α 0.65

2003 0.092 2005

2007 0.1

0.1

Jones et al 2005

2.5% 0.25%

2005 0.7-1.0 [1]

2006 0.9 0.9

GDP GDP

GDP 1995 2010

9.93% 14.79%

43% 42.21%

[1] 0.7 1.0

GDP GDP

11.7% 3.12%

GDP 1.18%

5 40

40/ 7*24

1

1

	α	δ	δ_h	θ	β	ε
	0.65	0.1	0.025	0.9	0.9133	1.1515
	A_h	τ^c	τ^e	τ^n	τ_G	
	0.3906	0.272	0.0713	0.0338	0.1479	

10%

5%

5%

10%

90% 5.56%

90% 0.92% 90%

1.34%

10% 2.72

0.713 0.338

25.5%

5.13% 1.38%

4.10% 5.27% 3.76%

5%

91%

2.44 24.75% 43.95%

1.89 1.49% 62.67%

2.66 4.47%

2 **%**

10%	5.56	0.92	1.34
	4.10	5.27	3.76

0.5%

GDP

GDP 43.02% 42.69% GDP 42.19%

42.52% GDP 41.87%

GDP 43.34%

1.66%

3.08%

0.42%

GDP

GDP 1.15% GDP

16.01% 14.9% GDP

0.77% GDP 15.28%

GDP 1.48% GDP 14.53%

GDP 1.48%

3 **%**

GDP	43.02	42.69	42.69	41.87
GDP	42.19	42.52	42.52	43.34
GDP	211.69	208.15	208.15	212.17
GDP [1]	0.00	1.15	0.77	1.48
GDP	16.01	14.90	15.28	14.53
GDP	11.70	10.57	11.61	11.39
GDP	1.18	1.18	0.52	1.18
GDP	3.12	3.15	3.15	1.96

[1] GDP

4 % [1]

	-3.21	-3.21	0.29
	-2.45	-2.45	3.02
	-4.83	-4.82	0.52
	-3.95	-3.95	-2.39
	-0.13	-0.13	-0.13
	-2.80	-2.80	-2.80
	1.66	1.66	1.66
	-3.08	-3.08	0.42

9 5 6

7 8 [2]

9

13

4

1

2

5 6

$$\varepsilon \frac{c}{l} = \frac{1-\tau^n}{1+\tau^c} w$$

$$\frac{1-\tau^n}{1+\tau^c}$$

$$\frac{1-\tau^n}{1+\tau^c}$$

$$\frac{1-\tau^n}{1+\tau^c}$$

0.42% 2.8%

$$\frac{1-\tau^n}{1+\tau^c}$$

GDP

GDP

GDP

$$\frac{Totaltax}{GDP} = \tau^c \frac{c}{y} + \tau^n (1-a) + \tau^e (a - \delta \frac{k}{y})$$

GDP GDP

11.7% 10.57% GDP

GDP 3.12% 3.15%

GDP GDP

GDP 11.61% GDP

1.18% 0.52% GDP

GDP 3.15% GDP

GDP

GDP 11.39% GDP

GDP 1.96%

GDP GDP GDP

GDP

GDP

GDP 14.79%

GDP

1.22% GDP 0.11%

0.49% -0.26%

GDP [1]

[1] GDP GDP GDP

1 0

1 GDP GDP

40

v v

1

GDP

1 2.85% 2.39%

1 1.86% 1.66%

1 4.07% 4%

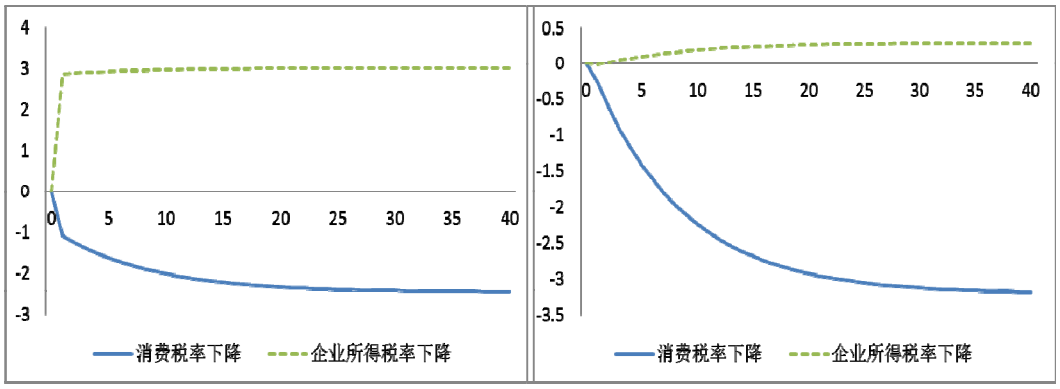
1

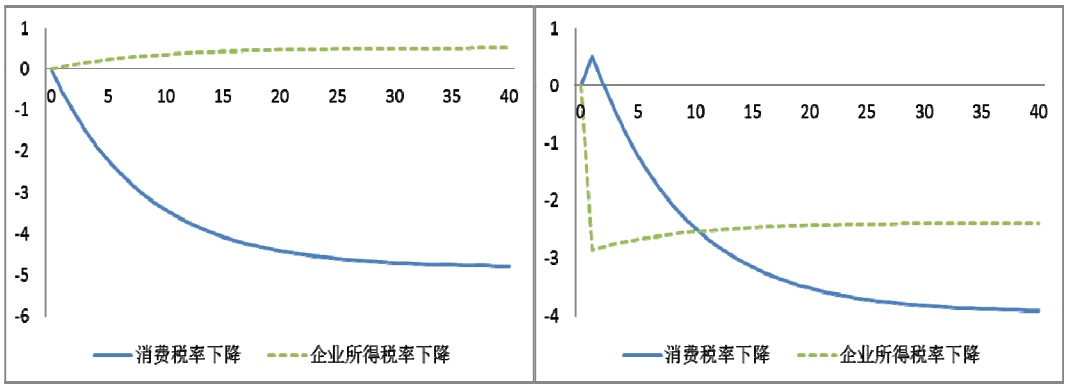
1

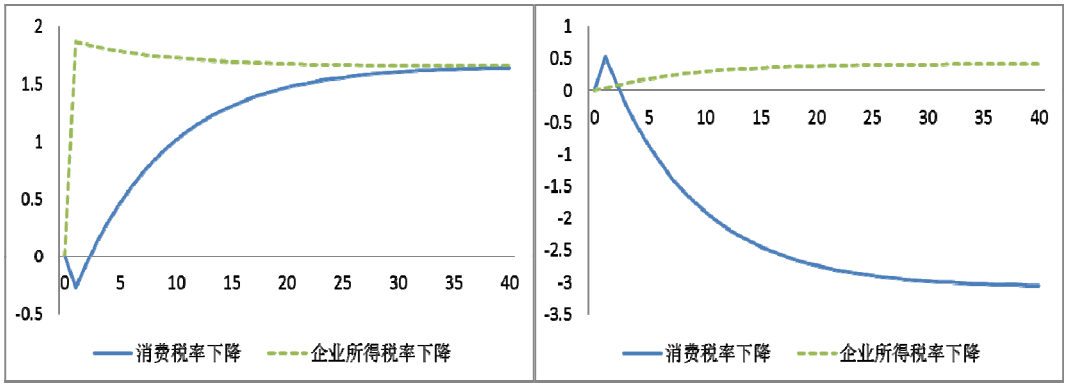
5%

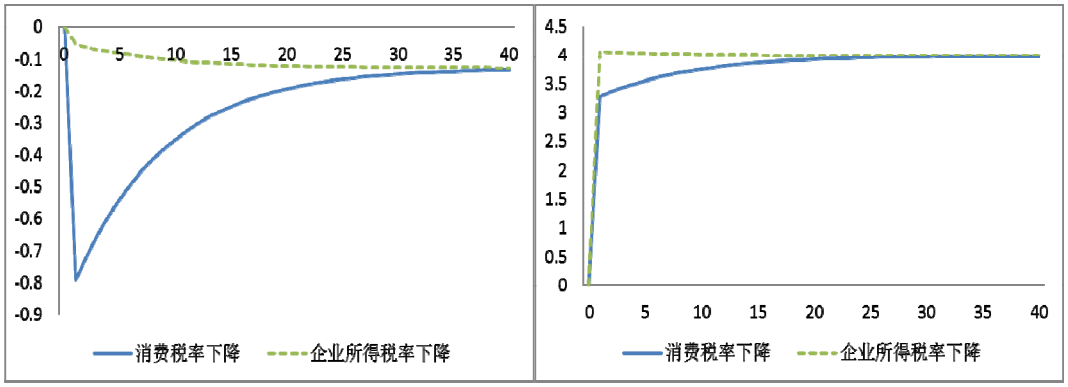
1 4.09% 5%

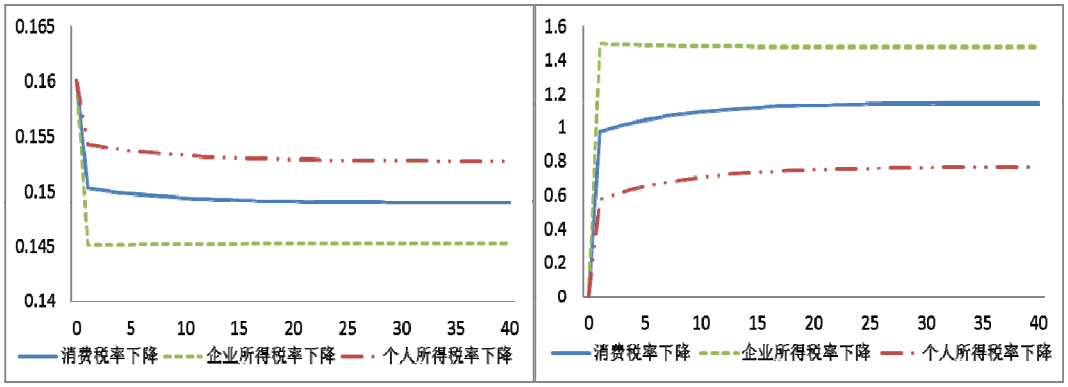
1 5.09%


4
3
2
1
0
-1
-2
-3
0 5 10 15 20 25 30 35 40
消费税率下降
企业所得税率下降
0.5
0
-0.5
-1
-1.5
-2
-2.5
-3
-3.5
0 5 10 15 20 25 30 35 40
消费税率下降
企业所得税率下降


1
0
-1
-2
-3
-4
-5
-6
0 5 10 15 20 25 30 35 40
消费税率下降
企业所得税率下降
1
0
-1
-2
-3
-4
0 5 10 15 20 25 30 35 40
消费税率下降
企业所得税率下降


2
1.5
1
0.5
0
-0.5
0 5 10 15 20 25 30 35 40
消费税率下降
企业所得税率下降
1
0.5
0
-0.5
-1
-1.5
-2
-2.5
-3
-3.5
0 5 10 15 20 25 30 35 40
消费税率下降
企业所得税率下降





GDP GDP

1 **%** [1]

Lucas 1990 ξ

$$W(\xi,\tau)=E_0\sum_{t=0}^{\infty}\beta^t\frac{((1+\xi)C_t l_t^{\varepsilon})^{1-\theta}}{1-\theta}$$

ξ $W(\xi,\tau_{old})=W(0,\tau_{new})$

ξ ξ

ξ

1

1.93%

0.34%

0.5%

5 **%**

	-1.93	-1.93	-0.34
	0.00	0.00	-0.50

v

0.5

2.44 1.89

2.66 [1]

GDP 43.02%

42.69% GDP 42.19% 42.52%

GDP 41.87% GDP 43.34%

1.66%

3.08%

0.42%

GDP

GDP

1.15% GDP 16.01% 14.9%

GDP 0.77% GDP

15.28% GDP 1.48% GDP

14.53%

[1] 0.5%

0.5%

“ ”

GDP

2005 1979—2004 6

2004

8

2005 — RBC

6

2011 “ ” ——

1

2007 ——

RBC 5

2006 ——

10

2009

3

2002 ——

1

2010 3

2010 CGE

1

2010 1

2003 K 7

Chow Gregory and Kui-Wai Li 2002 “China's Economic Growth 1952-2010” *Economic Development and Cultural Change* 51 1 247-256.

House Christopher and Matthew Shapiro 2006 "Phased-In Tax Cuts and Economic Activity" *American Economic Review* 96 5 1835–1849.

Jones Larry Rodolfo Manuelli and Henry Siu 2005 “Fluctuations in Convex Models of Endogenous Growth II Business Cycle Properties” *Review of Economic Dynamics* 8 4 805-828.

Jones Larry Rodolfo. Manuelli Peter Rossi 1993 “Optimal Taxation in Models of Endogenous Growth” *Journal of Political Economy* 101 3 485-517.

King Robert and Sergio Rebelo 1990 “Public Policy and Economic Growth Developing Neoclassical Implications” *Journal of Political Economy* 98 5 126-150.

Lucas Robert 1988 “On the Mechanics of Economic Development” *Journal of Monetary Economics* 22 1 3–42.

Lucas Robert 1990 “Supply-Side Economics An Analytical Review” *Oxford Economic Papers* 42 2 293–316.

Trabandt Mathias and Harald Uhlig 2011 “The Laffer Curve Revisited” *Journal of Monetary Economics* 58 4 305–327.

Uhlig Harald 2010 "Some Fiscal Calculus" *American Economic Review* 100 2 30–34.

一段时间以内，地方政府债务问题引起了广泛关注。限于数据问题，现有研究大多只讨论地方政府债务的总量，对其地区分布鲜有涉及。缺少地区分布和地方差异的信息，我们很容易将个别地区的情况一般化。显然，由此得出的结论并不准确。我们因此有必要研究地方债务的地区分布和差异。利用债券市场公开信息，本报告分析全国历年地方政府发行债券的次数和规模，以“地方债券在地方预算内收入所占比重”评估地方债务的风险。研究表明：（1）相对地方财力而言，地方政府债券总额在可以接受范围。已发行的债务总额为 23248.62 亿元，占 2009 年地方财政收入的 71.31%；（2）地方债务发行较为集中，地方政府之间债务规模差别较大；（3）地方政府债券规模与土地出让收入成正比；（4）地方政府债务风险与自有财政收入的关系呈倒 U 型，即中等财力地区的债务风险最高；（5）各城市地方政府债券的到期收益率相差甚大，与转移支付占自有财政收入比重呈反比，反映各地区的还贷风险各不相同。

[1] 80% 2011

2011 2010

1994

28 “

”

8 “

”

“

”

2008

“ ” 2009 3

“

” 2010

2010

6

7 30

, 2010

11 20

2008

2009 18

78 [2] 2010 24 119 [3]

2010 [4] 2010 40

49 108 [5]

2011

“ ” [6]

——

1 2009 2002

-2004 <5

2005-2008 2009

300-400

2

23248.62 2009 71.31%

50%

3

167 49.7%

88 1 2

[2] 12.5
http://news.ifeng.com/mainland/detail_2011_02/25/4852838_0.shtml

[3] 2010 5 p32-39

[4] 12.5
http://news.ifeng.com/mainland/detail_2011_02/25/4852838_0.shtml

[5] 2010 http://money.sohu.com/20110105/n278688710.shtml

[6] 483 http://roll.sohu.com/20110810/n315964618.shtml

4

U

2010 6 13

1

2 3

Wind 2002

2011 6 30

2010

2010

1 **2009**

2002

1 **2002 -2004**

2002 3

2003 5 2004 1

2.2002-2004

2002	15	1	4.32
	15	1	4.32
	15	1	4.51
2003	18	1	4.61
	10	1	4.3
	55	2	4.4
	10	1	4.29
2004			
	20	1	5.05

Wind

2 **2005 -2008**

100

3 2009

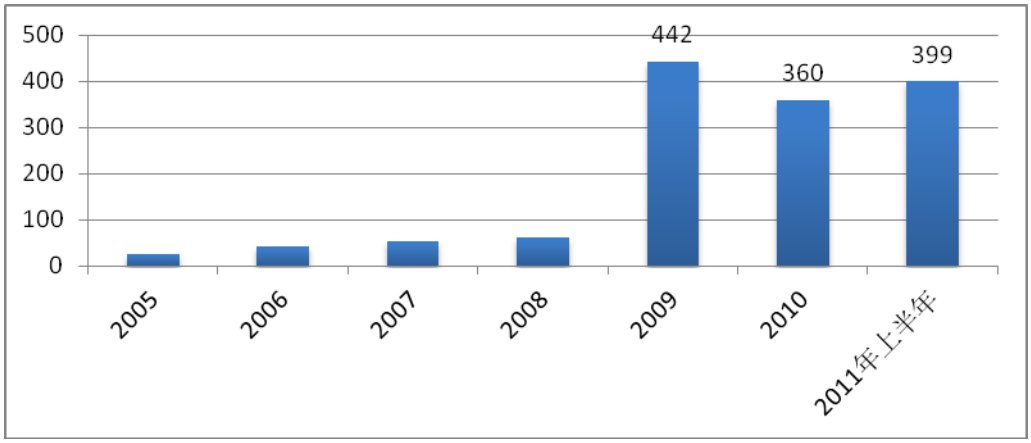
2009 300-400

2009 442 2010

360

400 399 2011

2009



1.2005-2011

2.

2. 2002

	23248.62	13387.3	9861.321
2012	1432.25	628.237	804.0135
2012 2012	21691.55	12759.06	8932.49
*	71.31%	69.23%	74.33%

* 2009

2007

2007

2002 2.3 2009

71.31%

70%

2012 628.237 2007

3.24%[7] 2007 6.06%

3 20

77%

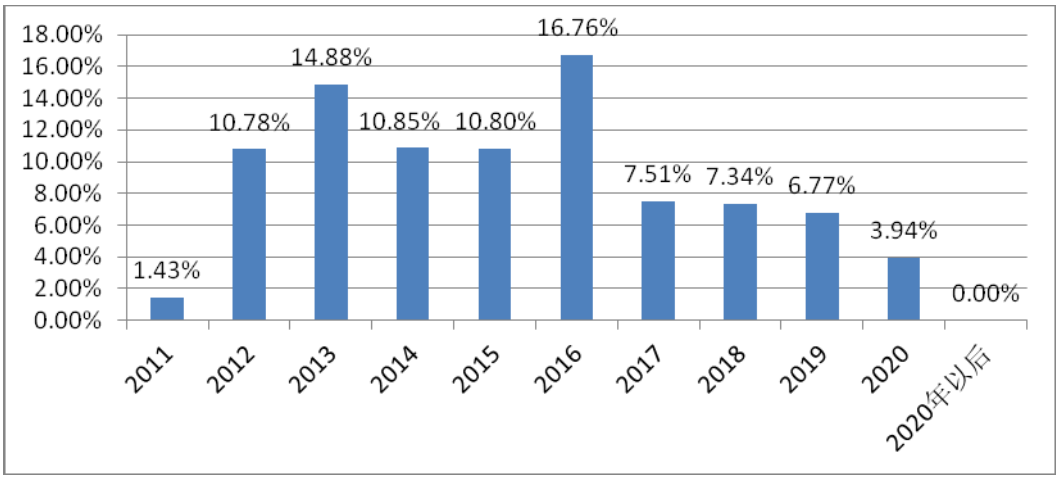
17%

2016

2227.113 2009 6.83%

2011 6 30

6.83%



1

332 4 167

49.7% 169

88 1 2

52.1% 5 133 78.7%

17 10 83 79

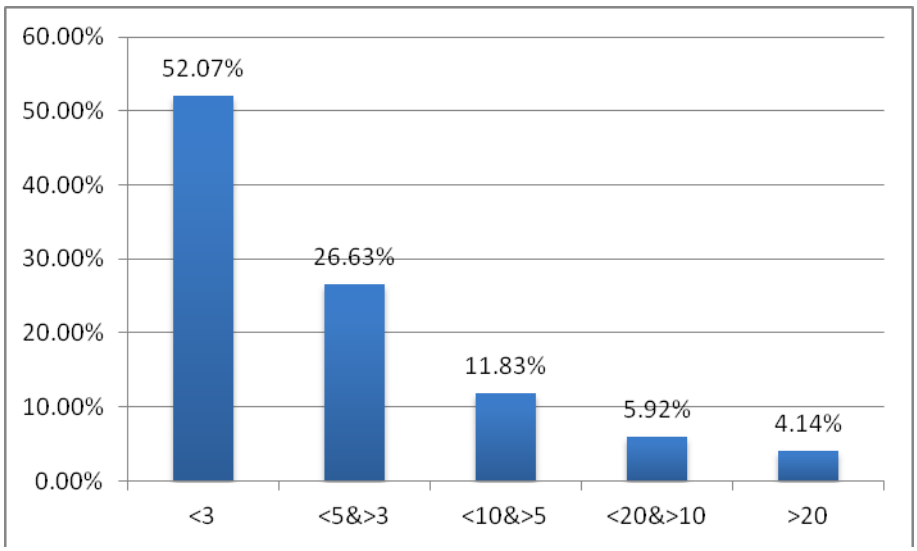
[7] 2007 2007

10% 2012 31143.12 2012

2.02%

51 33

28 22 20



2.169

76

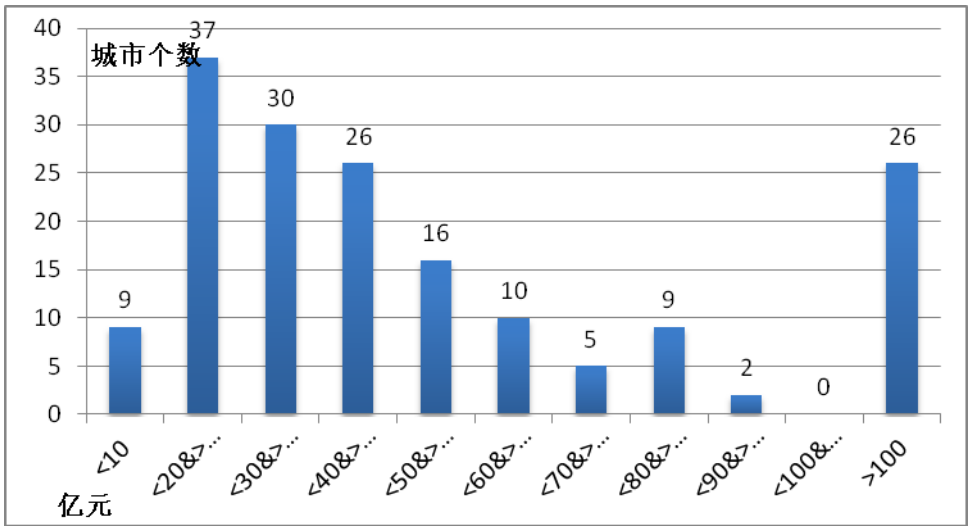
30 45% 80% 70 26

100 15%

1711.63 1632.61 692 635

2 300 370.227

307



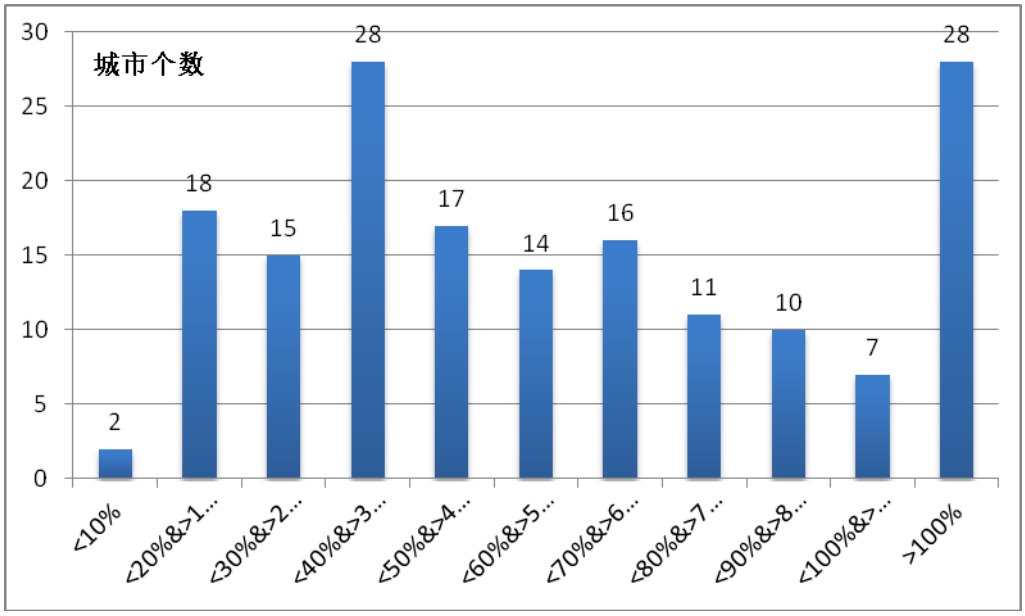
3.2002-2011

2

50% 28

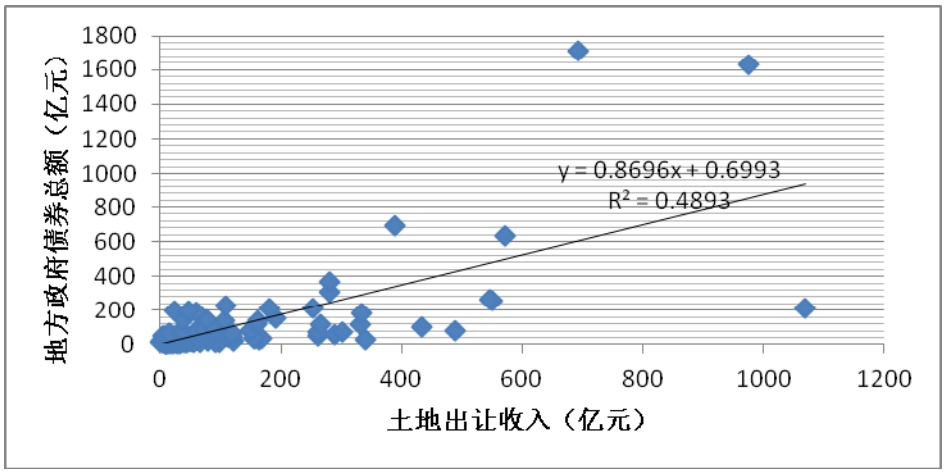
4.11 3.31

2.21 1.88



4. **2009**

1.



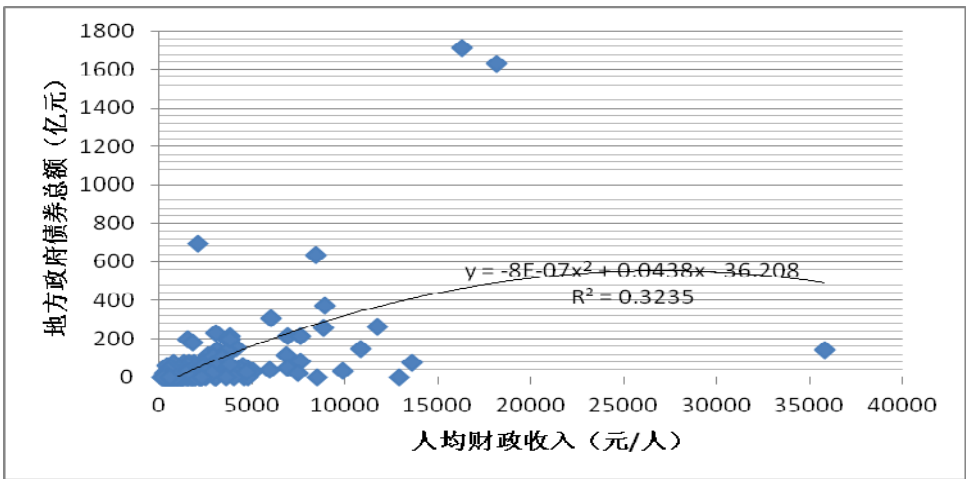
5.

2 U

U

U

26963 / 35811 /

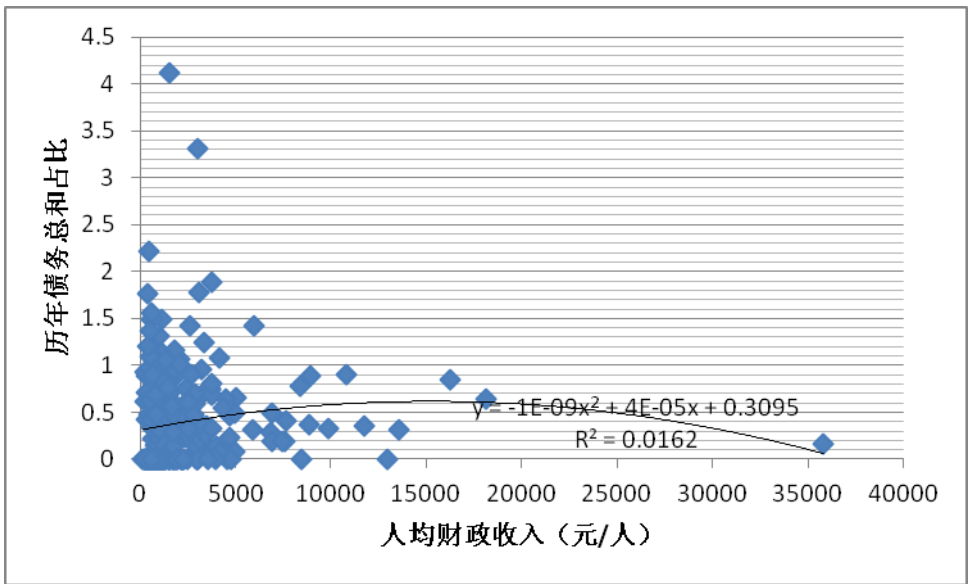


6.

3

2009

U 15293 /

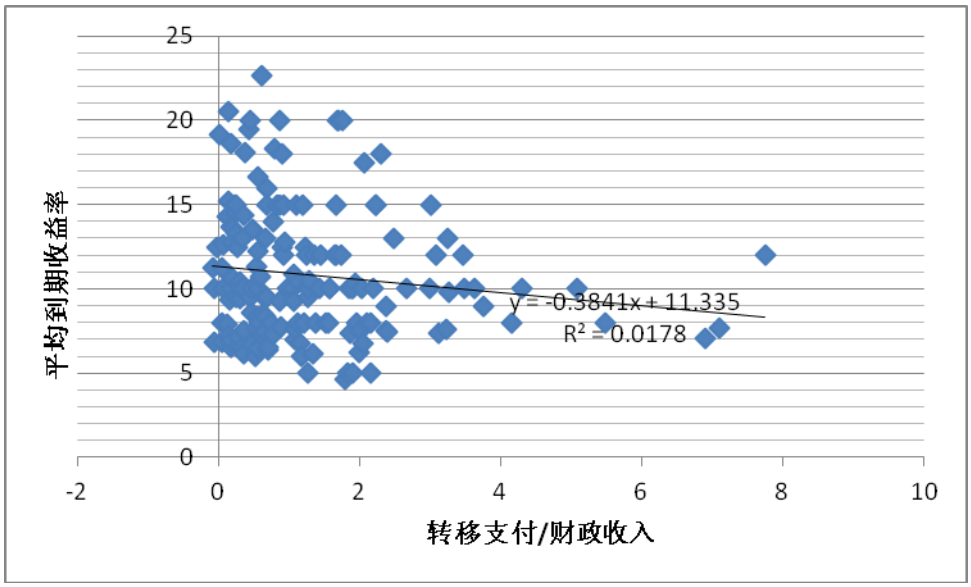


7.

4

22.7%

4.7%


25
20
15
10
5
0
-2
0
2
4
6
8
10
平均到期收益率
转移支付/财政收入
y = -0.3841x + 11.335
R² = 0.0178

8.

U

“ ”

5

10

1 2010 6 13
2
265 p44-52
3 12.5
http://news.ifeng.com/mainland/detail_2011_02/25/4852838_0.shtml
4 2010
5 p32-39
5 2010
http://money.sohu.com/20110105/n278688710.shtml
6 483
http://roll.sohu.com/20110810/n315964618.shtml

大同市 4.11
芜湖市 3.31
伊春市 2.21
镇江市 1.88
湖州市 1.77
商丘市 1.76
咸阳市 1.56
辽源市 1.50
绵阳市 1.49
佳木斯市 1.49
辽阳市 1.43
常州市 1.42
渭南市 1.37
黄石市 1.31
盘锦市 1.24
汉中市 1.20
淮北市 1.17
潍坊市 1.16
怀化市 1.10
赣州市 1.10
嘉兴市 1.09
巢湖市 1.07
丹东市 1.06
焦作市 1.06
湘潭市 1.06
漯河市 1.06
牡丹江市 1.06
重庆市 1.02
0
1
2
3
4

1. 2009

1953

13% 2010 50%

2010 1978 17.9% 49.68%

2050 70%

1994

1

4

2007

35% 13%

2008 58.4%

2006 67%

1 2006-2009

	2006	2007	2008	2009
	39343.62	51304.03	61316.9	68476.88
	40213.16	49565.4	62427.03	75873.64
	20449.77	27738.99	32671.9	35896.14
	9991.56	11445.04	13374.31	15279.84
	18280.85	23565.04	28644.91	32580.74
	30221.6	38120.36	49052.72	60593.80
	51.98%	54.07%	53.28%	52.42%

	48.02%	45.93%	46.72%	47.58%
	24.85%	23.09%	21.42%	20.14%
	75.15%	76.91%	78.58%	79.86%
/	0.89	0.85	0.88	0.91
/	3.02	3.33	3.67	3.97

wind

2010 10.7

8.468 79% 7567

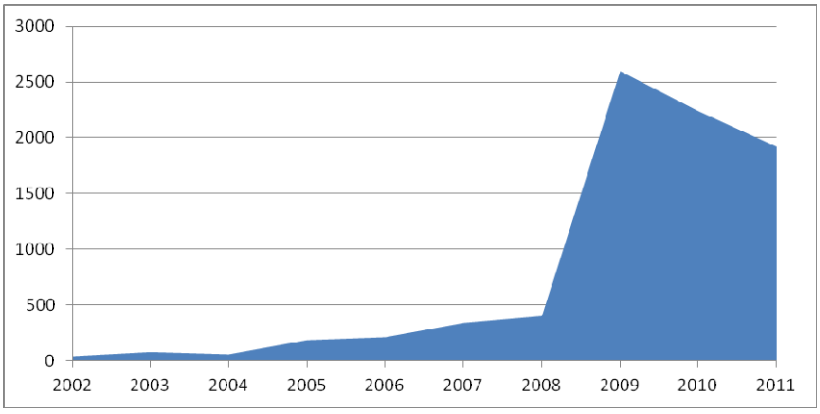
7%

28 “

”

2011 10 8096.5

1



2011 2011 10 19

Wind

2011 10 17

2011

( ) ( )

KMV

KMV

KMV

KMV Creditmetrics

CreditportfolioView Creditrisk+ Creditmetrics

Creditportfolio View

Creditmetrics Creditrisk+

KMV

KMV

KMV

,2003

KMV

KMV

“ ” “ ”

“

”

$$A_t = f(Z_t) \qquad 1$$

A_t t Z_t $f(.)$

T

B_t $A_t < B_t$

p

$$p = P[A_t < B_t] = P[f(Z_t) < B_t] = P[Z_t < f^{-1}(B_t)] \qquad 2$$

2 $Z_t \sim N(0,1)$

$$p = P[Z_t < f^{-1}(B_t)] = N[f^{-1}(B_t)] \qquad 3$$

$DD = -f^{-1}(\mathrm{B_t})$ DD

$$p = N(-DD) \qquad 4$$

$$d\mathrm{A_t} = u\mathrm{A_t}dt + \sigma A dZ_\mathrm{t} \qquad 5$$

σ u dZ_t

t=0 $\mathrm{A_0} = \mathrm{A}$ t>0

$$\mathrm{A_t} = \mathrm{A}\exp\{(\mathrm{u}-\frac{1}{2}\sigma^2)\mathrm{t} + \sigma\sqrt{t}Z_\mathrm{t}\} \qquad 6$$

$Z_\mathrm{t} \sim N(0,1)$

$$\mathrm{E}[\ln\mathrm{A}_t] = \ln\mathrm{A} + \mathrm{ut} - \frac{1}{2}\sigma^2\mathrm{t} \qquad 7$$

$$\mathrm{Var}[\ln\mathrm{A}_t] = \sigma^2\mathrm{t} \qquad 8$$

$$\mathrm{u} = [\frac{1}{n-1}\sum_{i=1}^{n-1}\ln\frac{\mathrm{A}_{i+1}}{\mathrm{A}_i} + \frac{1}{2}\sigma^2\mathrm{t}]/\mathrm{t} \qquad 9$$

$$\sigma = \sqrt{[\frac{1}{n-2}\sum_{i=1}^{n-1}(\ln\frac{\mathrm{A}_{i+1}}{\mathrm{A}_i} - \frac{1}{n-1}\sum_{i=1}^{n-1}\ln\frac{\mathrm{A}_{i+1}}{\mathrm{A}_i})^2]/t} \qquad 10$$

$$DD = \frac{\ln(\mathrm{A}/\mathrm{B}_t) + ut - \frac{1}{2}\sigma^2 t}{\sigma\sqrt{t}} \qquad 11$$

$$p = N[\frac{\ln(\mathrm{B}_t/\mathrm{A}) - ut + \frac{1}{2}\sigma^2 t}{\sigma\sqrt{t}}] \qquad 12$$

KMV

u σ

1

50%

50%

2

1994

1994

AR(1)

$$A_t = a + b * A_{t-1}$$

1978~2010

2

	a	b	R2		a	b	R2
	-12.50	1.26	0.99		-21.03	1.24	0.99
	6.47	1.19	0.99		-5.96	1.33	1.00
	-4.27	1.18	0.99		-0.51	1.21	0.99
	-1.53	1.20	0.96		-1.36	1.27	0.99
	6.17	1.16	0.99		-1.49	1.18	0.99
	-13.86	1.24	1.00		18.60	1.13	0.95
	-2.96	1.22	0.99		-8.13	1.27	1.00
	-1.86	1.25	0.99		52.39	1.12	0.98
	-6.06	1.19	0.99		-14.37	1.22	0.98
	-4.27	1.18	0.99		-6.90	1.26	1.00
	-7.14	1.18	0.99		-0.12	1.24	0.99
	-10.78	1.20	0.99		2.77	1.16	0.98
	-7.32	1.21	0.99		-14.48	1.22	0.99
	-5.44	1.22	0.99		38.28	1.15	0.99

	-8.19	1.24	1.00		5.02	1.22	0.98
	-9.63	1.25	1.00				

n

50% 2

3 2011-2012

	2011E	2012E		2011E	2012E
	899	1,127		1,515	1,866
	1,463	1,741		944	1,257
	803	949		113	137
	254	304		87	110
	3,065	3,570		1,909	2,250
	580	714		615	705
	394	480		741	939
	209	260		1,869	2,126
	934	1,108		1,149	1,396
	960	1,133		837	1,049
	515	603		28	35
	722	864		342	400
	769	925		636	772
	444	541		1,766	2,050
	3,109	3,840		758	924
	595	738			

2

9 10

4 t=2

	u	σ		u	σ
	0.20	0.10		0.14	0.17
	0.16	0.09		0.21	0.25
	0.16	0.06		0.17	0.17
	0.16	0.07		0.18	0.18
	0.16	0.16		0.14	0.19
	0.17	0.05		0.17	0.11
	0.16	0.20		0.14	0.11
	0.21	0.27		0.16	0.06
	0.13	0.18		0.16	0.10
	0.13	0.15		0.20	0.06

	0.14	0.33		0.20	0.07
	0.15	0.14		0.16	0.05
	0.13	0.16		0.16	0.07
	0.15	0.23		0.19	0.07
	0.16	0.19		0.20	0.05
	0.18	0.06			

3

1812

200

1940 403152 0.5%

0.5%

5

			(%)
1940-1949	79	40907	0.2
1950-1959	112	74592	0.2
1960-1969	294	79941	0.4
1970-1979	202	77620	0.3
1980-1994	133	130092	1
	2020	403152	0.5

.

12 0.5% t=2 “

/ ”

6 “ / ”

	B_t/A_t		B_t/A_t		B_t/A_t
	0.8		0.65		0.8
	0.8		0.6		0.75
	0.85		0.5		0.85
	0.85		0.6		0.75
	0.65		0.85		0.9
	0.9		0.6		0.85
	0.6		0.5		0.9
	0.5		0.65		0.85

	0.6		0.6		0.85
	0.65		0.6		0.9
	0.4				

2 15

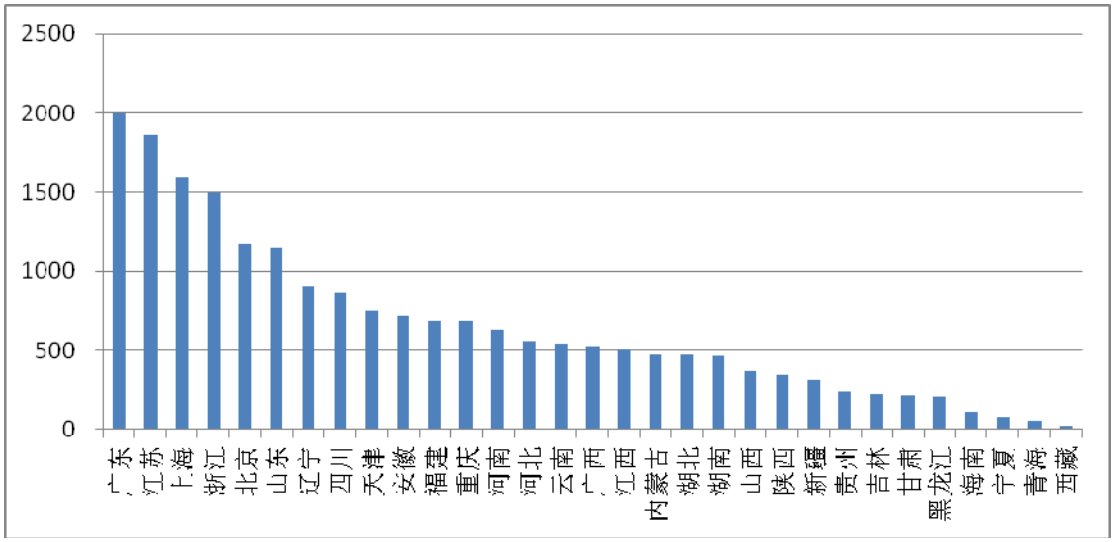
16%

2000 1866

1589 1501 1171

1145

2



“ ”

2

8096.5　　2010　　2000

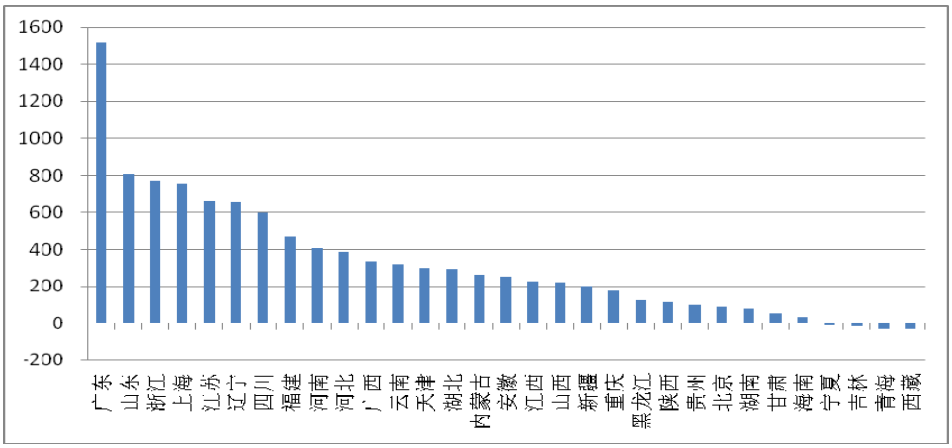
3416　　1.35

2012　　6500

2012

1

3



“

=　　/　　*100%　”

100%

30%

7

	242.80%		64.70%		37.40%
	156.70%		60.50%		36.50%

	114.60%		58.70%		35.10%
	108.00%		55.30%		34.60%
	92.40%		52.40%		31.60%
	82.70%		48.60%		30.90%
	76.00%		45.10%		30.40%
	74.60%		41.60%		29.40%
	67.70%		41.00%		27.80%
	67.00%		39.80%		23.80%
	65.20%				

此次金融危机是 IT 革命之后长期经济增长的调整。IT 革命导致生产率上升，推动投资增加，而资本深化的结果是导致利润率下降。面对利润率下降，美国采用了扩大政府负债和消费贷款的方式，并在此过程中开发出了基于次级抵押贷款的各种衍生品。因为美元的国际储备地位，美国政府债务相对安全，而消费信贷则蕴含着危机，具体体现在了此次的次级抵押贷款衍生品上。进而，通过银行信贷标准提高，产生信贷紧缩，金融危机蔓延至实体经济。因此，美国等发达市场经济体要走出此次金融危机的困境，需要一次新的技术革命。不过，当前并没有出现新一轮技术革命的苗头。世界经济处于无创新复苏中。因此，这次复苏将是缓慢的进程。未来一年，世界经济形势难以有大的起色。同时，因为当前技术进步放缓，所以国际产业分工难以调整，再平衡出现较为困难，各国的产业结构进一步固化。在这个环境下，产业结构顺周期的国家复苏较为缓慢，从而税基上升缓慢，但是这个过程也就需要更多的政府支出，从而，这些国家会陷入债务问题，主权债务危机在未来是一个常态化进程。为了应对这个缓慢并且多极化的复苏进程，需要各国相互协调，平滑世界经济复苏的速度。

2008

2010 2011

IT

2008 CDS CDO

Foote, Gerardi et al. (2008)

Fratianni (2008) 17

Reinhart and Rogoff (2008) Lim (2008) Dungey, Fry et al. (2008)

Borio (2008)

Fernandez, Kaboub et al. (2008)

“ (Minsky) ”

Borio (2008)

Gorton (2009)

Perelstein (2009)

Orlowski

(2009)

Caballero and Krishnamurthy (2009)

Dooley, Folkerts-Landau et al.

(2008) II

Taylor(2009)

Taylor (2009)

(Allen and Carletti,

2008)

IT

2008 [1]

Jorgenson, Ho. et al. (2005) IT

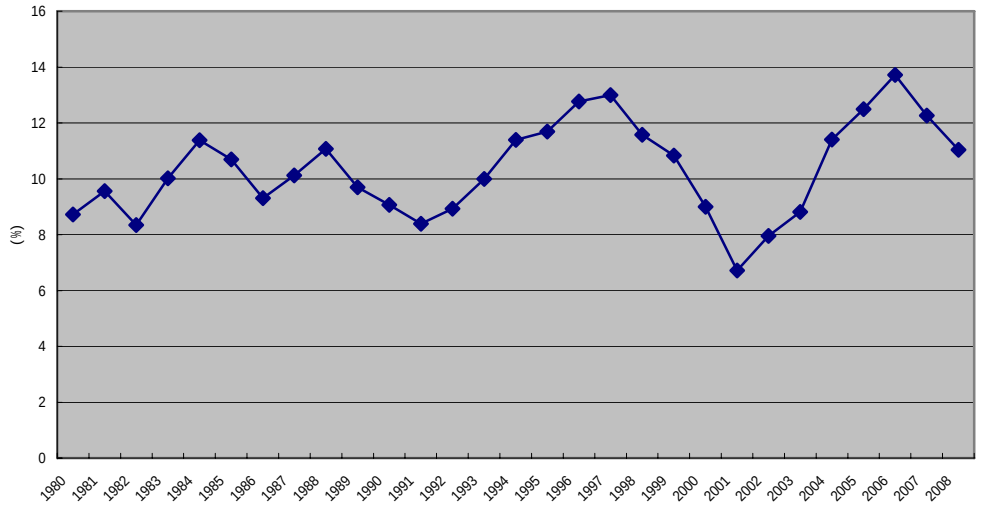
IT [2] IT

1 IT ——

——

1980 5.6% 1997

1 **%**



BEA

1948 2008

IT 1

1% IT

IT

[1] 2008

[2]

IT

1

	*	F	p
	59	1.14727	0.32512
	59	6.30667	0.00346
IT	59	4.01762	0.02363
IT	59	12.4979	3.5E-05

* 2 BEA

NBER 2001

3 11

M

“ ” (Holmes, 1969)

(Lavoie, 2003, 2007)

Rochon，2005

2001 2

[1] 1985 1985

21 2004 3

1996

2006

2000 4

“ ” “ ” “ ” “

” “ ” “ ” “ ” “ ”

“ ”

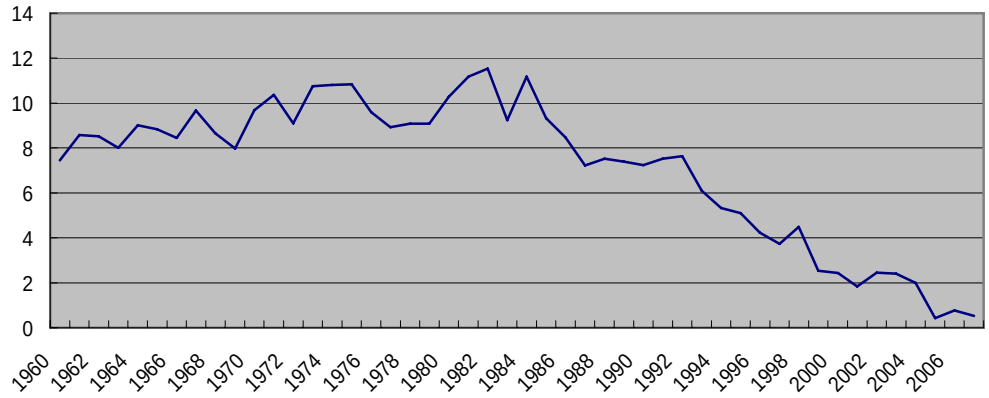
2000 2004

1 2004

10%

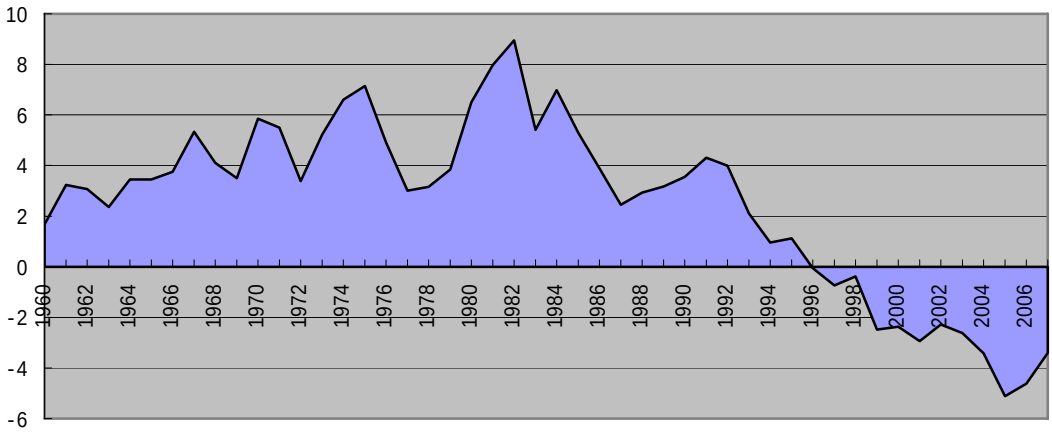
[1]

2 %


14
12
10
8
6
4
2
0
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006

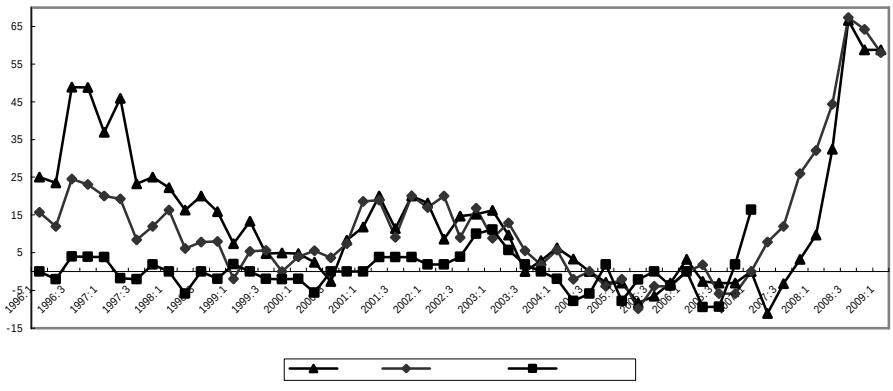
BEA

3 / %


10
8
6
4
2
0
-2
-4
-6
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006

BEA

4

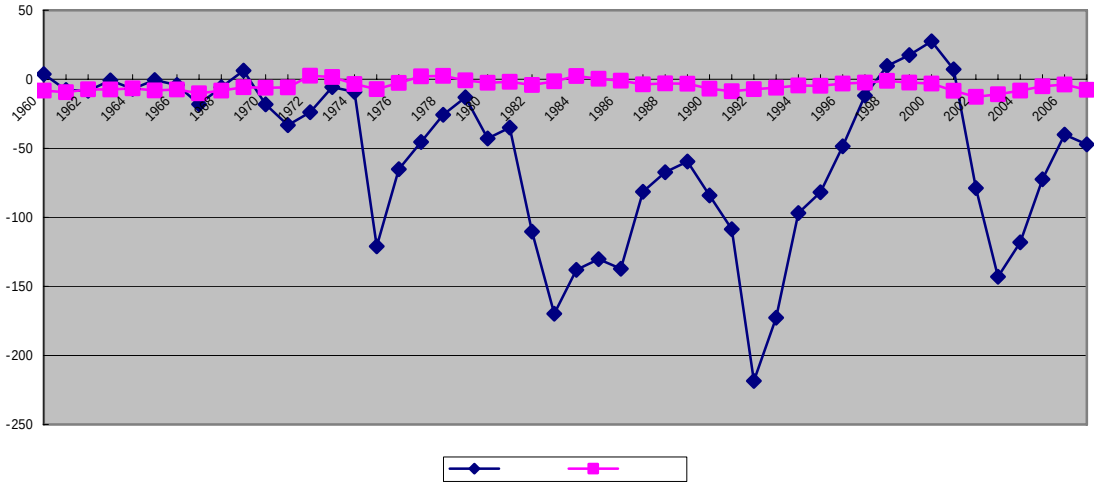

65
55
45
35
25
15
5
-5
-15

5

2001

2002 2003

5 / %



BEA

2002

Hellwig (2008)

Hellwig 2008)

IT

IT

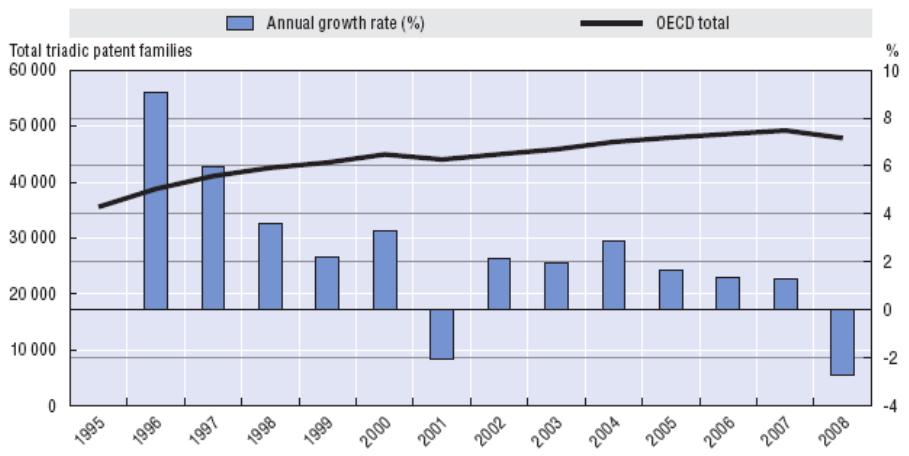
EPO USPTO

JPO [1]

6 1995

(OECD)

6



OECD, *Science, Technology and Industry Outlook 2010*

1

2007

—

—

…

…

2007 200 5

19

20 20 70

2

2 18 70 -21 10

				1771
			“ ”	1829
				1875
			T	1908
				1971

2007

3 5

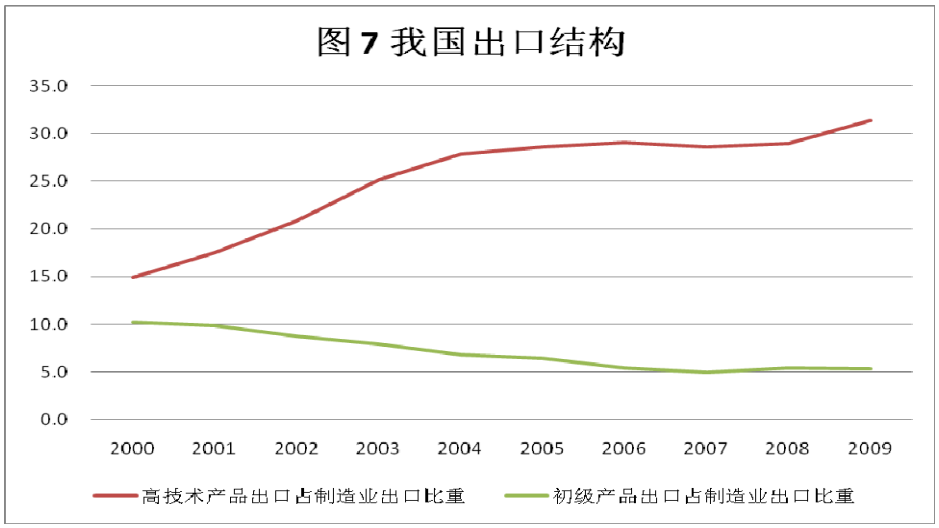
3

1771		
1829		
1875		
1908		
1971		/ E

2007

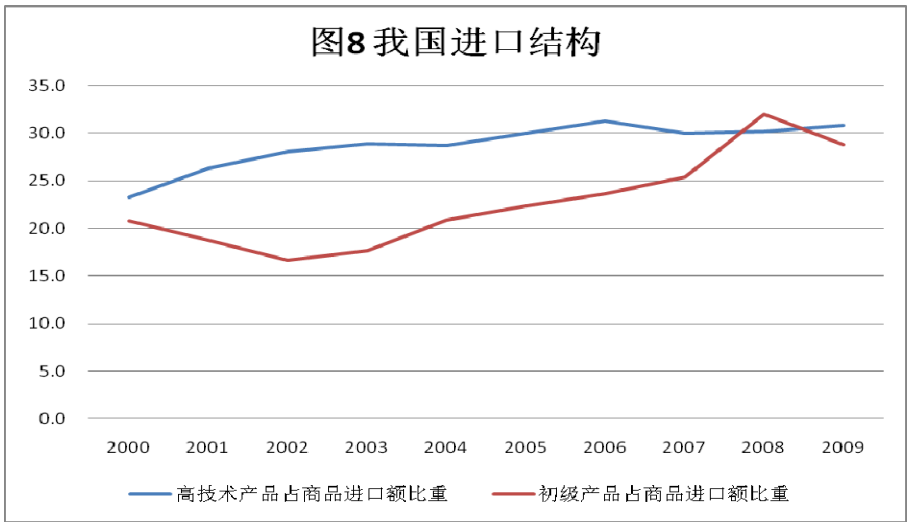
1978

7 2000-2009



2010

7 2003



2010

8

4

2010

4 GDP %

	2003	2004	2005	2006	2007	2008	2009	2010
	2.5	3.5	3.1	2.7	1.9	-0.3	-3.5	3
	-0.4	0.7	0.8	3.9	3.4	0.8	-5.1	3.6
	0.9	2.3	1.9	2.7	2.2	-0.2	-2.6	1.4
	5.9	4.4	2.3	5.2	4.3	1	-2.3	-4.4
	0	1.5	0.7	2	1.5	-1.3	-5.2	1.3
	3.1	3.3	3.6	4	3.6	0.9	-3.7	-0.1
	10	10.1	11.3	12.7	14.2	9.6	9.2	10.3
	1.4	2.7	1.9	2	2.4	-1.2	-6.3	4

IMF World Economic Outlook

5

GDP 2009

5 GDP

/	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
(27)	44.7	44.0	44.1	43.9	44.4	44.8	44.8	44.7	44.1	44.1
(25)	44.7	44.1	44.1	44.0	44.5	44.9	44.9	44.8	44.3	44.2
(17)	45.3	44.9	44.9	44.6	44.9	45.4	45.4	45.0	44.7	44.6
(16)	45.3	44.9	44.9	44.6	44.9	45.4	45.4	45.0	44.7	44.6
(15)	45.3	44.9	44.9	44.6	44.9	45.4	45.5	45.1	44.9	44.8
	49.5	49.6	50.9	48.9	49.3	48.7	48.0	48.6	48.0	48.8
	38.3	39.1	43.3	40.4	39.8	39.6	40.3	38.9	39.1	39.3
	55.4	54.8	55.0	56.4	57.8	56.6	55.6	55.2	55.6	55.7
	44.5	44.1	44.3	43.3	43.6	43.7	43.7	44.0	44.9	43.6
	34.0	33.1	33.6	34.9	35.4	37.2	36.7	35.5	34.7	35.5
	40.9	40.3	39.0	38.1	39.0	39.2	40.8	40.7	38.0	39.5
	38.1	38.7	38.0	38.8	39.7	40.7	41.1	37.0	35.1	36.3
	50.0	49.6	49.3	49.6	50.6	50.6	49.9	49.9	49.2	49.5
	44.5	44.0	44.4	44.0	43.4	45.0	46.0	45.9	46.3	45.8
	44.2	43.6	42.2	41.5	41.5	39.9	39.9	40.1	42.1	41.4
	43.7	42.5	42.4	42.6	42.2	42.7	45.6	45.5	46.9	45.2
	45.1	44.1	43.9	44.3	44.5	46.1	45.4	46.7	46.0	46.2
	51.1	49.8	49.7	49.2	48.2	47.5	47.6	48.3	48.7	48.1
	38.5	39.3	38.5	37.2	39.4	40.2	40.3	39.5	37.2	37.5
	38.2	39.4	40.7	41.3	39.9	40.5	41.1	41.1	39.7	41.6
	53.1	53.1	52.8	52.5	53.0	53.3	52.7	53.6	53.2	52.5
	56.1	54.1	54.4	54.6	55.8	54.9	54.5	53.9	54.1	52.8
	40.7	39.0	38.7	39.5	40.7	41.5	41.1	42.9	40.1	40.3
	41.9	41.7	42.8	44.0	47.1	48.0	47.7	44.1	41.0	41.5
	57.4	56.3	55.5	56.6	57.2	58.9	58.6	59.7	56.8	56.5
	34.7	35.0	34.6	34.2	34.6	34.3	34.0	34.7	35.1	34.8

Eurostat

6 2001 2010 GDP

2009 GDP

6 GDP

/	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
(27)	46.2	46.6	47.3	46.8	46.9	46.3	45.7	47.1	51.0	50.6
(25)	46.2	46.7	47.4	46.9	47.0	46.5	45.8	47.2	51.2	50.8
(17)	47.3	47.6	48.1	47.5	47.4	46.7	46.1	47.1	51.1	50.9
(16)	47.3	47.6	48.1	47.5	47.4	46.8	46.1	47.1	51.1	50.9
(15)	47.3	47.6	48.1	47.6	47.5	46.8	46.2	47.2	51.2	51.0
	49.1	49.8	51.0	49.3	52.1	48.6	48.3	49.9	53.8	52.9
	43.9	45.6	50.0	43.3	43.0	42.0	41.0	41.1	44.9	44.1
	54.2	54.6	55.1	54.6	52.8	51.6	50.8	51.9	58.4	58.5
	47.6	47.9	48.5	47.1	46.9	45.3	43.5	44.0	48.1	47.9
	33.0	33.4	33.1	33.5	33.8	34.3	36.6	42.8	48.9	66.8
	45.3	45.1	44.7	45.5	44.6	45.2	47.6	50.6	53.8	50.2
	38.7	38.9	38.4	38.9	38.4	38.4	39.2	41.5	46.3	45.6
	51.7	52.9	53.4	53.3	53.6	53.0	52.6	53.3	56.7	56.6
	47.7	47.1	48.1	47.5	47.9	48.5	47.6	48.6	51.6	50.3
	38.1	41.5	41.8	42.6	41.5	38.6	36.3	37.1	43.0	42.5
	47.8	51.5	49.7	49.1	50.1	52.1	50.6	49.2	51.4	49.5
	45.4	46.2	47.1	46.1	44.8	45.5	45.3	46.2	51.5	51.2
	51.3	50.7	51.3	53.8	50.0	49.1	48.6	49.3	52.9	52.5
	43.8	44.3	44.7	42.6	43.4	43.9	42.2	43.2	44.5	45.4
	42.5	42.3	43.8	44.7	45.8	44.5	44.4	44.8	49.9	51.3
	48.0	49.0	50.3	50.2	50.4	49.2	47.4	49.3	55.9	55.3
	54.5	55.6	55.7	54.2	53.9	52.7	51.0	51.7	55.0	52.9
	40.2	41.1	42.1	43.0	44.1	44.2	43.9	47.9	51.4	50.4
	42.6	44.3	45.6	44.0	42.2	41.6	42.3	57.6	51.0	51.5
	44.1	47.1	48.2	45.4	42.1	40.5	41.1	40.6	46.3	45.9
	34.8	36.2	36.4	35.9	35.3	33.5	32.3	32.4	34.1	34.2

Eurostat

2009

20.1% 2005 2008 18.1%

7

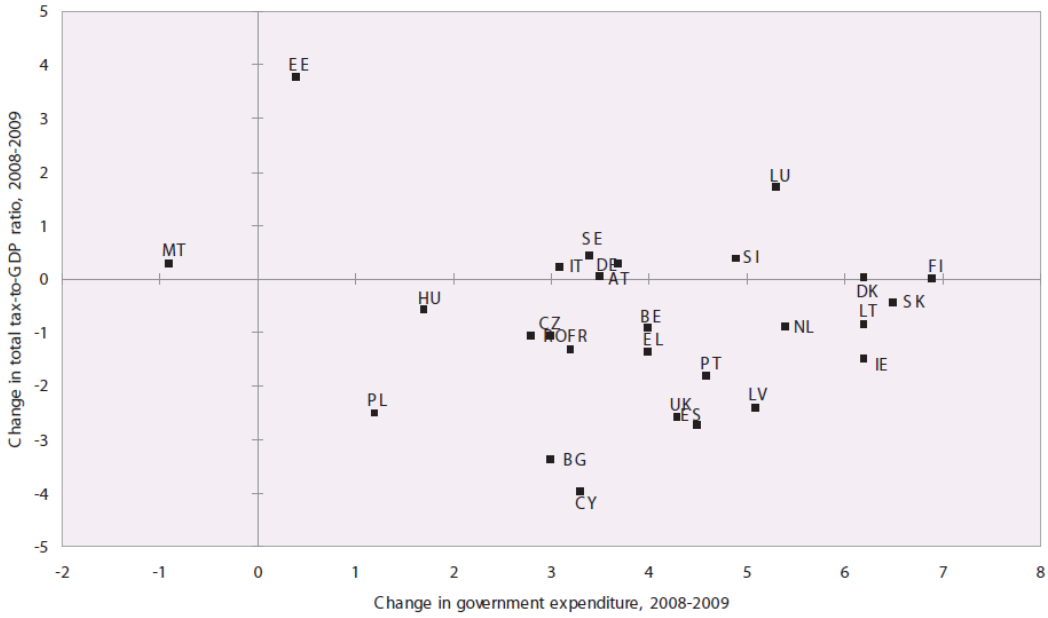
7 + / -

/	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
(27)	-1.5	-2.6	-3.2	-2.9	-2.5	-1.5	-0.9	-2.4	-6.9	-6.6
(25)	-1.5	-2.6	-3.2	-2.9	-2.5	-1.5	-0.9	-2.4	-6.9	-6.6
(17)	-2.0	-2.7	-3.2	-2.9	-2.6	-1.4	-0.7	-2.1	-6.4	-6.2
(16)	-2.0	-2.7	-3.2	-2.9	-2.6	-1.4	-0.7	-2.1	-6.4	-6.2
(15)	-2.0	-2.7	-3.2	-2.9	-2.6	-1.4	-0.7	-2.1	-6.4	-6.2
	0.4	-0.2	-0.2	-0.4	-2.8	0.1	-0.3	-1.3	-5.9	-4.2
	-5.6	-6.5	-6.7	-2.8	-3.2	-2.4	-0.7	-2.2	-5.8	-4.8
	1.2	0.3	-0.1	1.9	5.0	5.0	4.8	3.3	-2.8	-2.8
	-3.1	-3.8	-4.2	-3.8	-3.3	-1.7	0.2	-0.1	-3.2	-4.3
	0.9	-0.3	0.4	1.4	1.7	2.9	0.1	-7.3	-14.2	-31.3
	-4.4	-4.8	-5.7	-7.4	-5.6	-6.0	-6.8	-9.9	-15.8	-10.8
	-0.5	-0.2	-0.4	-0.1	1.3	2.4	1.9	-4.5	-11.2	-9.3
	-1.7	-3.3	-4.1	-3.6	-3.0	-2.4	-2.8	-3.3	-7.6	-7.1
	-3.2	-3.2	-3.6	-3.6	-4.5	-3.4	-1.6	-2.7	-5.4	-4.5
	6.1	2.1	0.5	-1.1	0.0	1.4	3.7	3.0	-0.9	-1.1
	-4.1	-9.0	-7.3	-6.5	-7.9	-9.4	-5.1	-3.7	-4.5	-4.3
	-0.3	-2.1	-3.2	-1.8	-0.3	0.5	0.2	0.5	-5.6	-5.0
	-0.2	-0.9	-1.7	-4.6	-1.8	-1.7	-1.0	-1.0	-4.1	-4.4
	-5.3	-5.0	-6.2	-5.4	-4.1	-3.6	-1.9	-3.7	-7.3	-7.8
	-4.3	-2.9	-3.1	-3.4	-5.9	-4.1	-3.2	-3.7	-10.2	-9.8
	5.1	4.1	2.4	2.2	2.7	4.0	5.3	4.2	-2.7	-2.8
	1.6	-1.5	-1.3	0.4	1.9	2.2	3.6	2.2	-0.9	-0.1
	0.5	-2.1	-3.4	-3.5	-3.4	-2.7	-2.8	-5.0	-11.3	-10.2
	-0.7	-2.6	-2.8	0.0	4.9	6.3	5.4	-13.5	-10.0	-10.1
	13.3	9.2	7.3	11.1	15.1	18.4	17.5	19.1	10.5	10.6
	-0.1	-1.2	-1.7	-1.8	-0.7	0.8	1.7	2.3	1.0	0.6

Eurostat

9 GDP 2008 2009

GDP 2008 2009



Eurostat

BE BG CZ DK DE EE

IE EL/GR ES FR IT CY

LV LT LU HU MT NL AT

PL PT RO SI SK FI SE

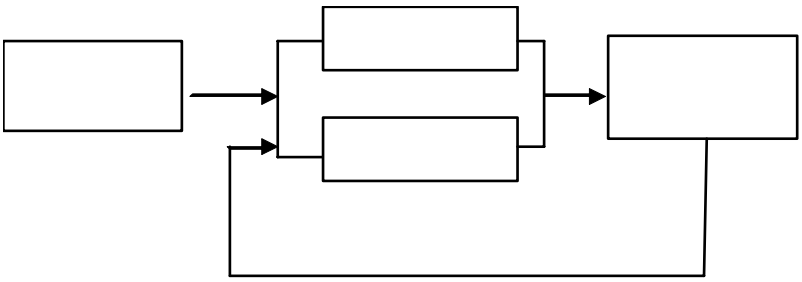
UK IS NO

1. 2008 IT IT

2.

3.

4.



5.

(1) Aglietta, M., 2008, “Understanding the Structured Credit Crisis”, *Working Paper*.

(2) Allen, F. and E. Carletti, 2008, “Financial system: shock absorber or amplifier?”, *BIS Working Papers No. 257*.

(3) Borio, C. E., 2008, “The Financial Turmoil of 2007-?: A Preliminary Assessment and Some Policy Considerations”, *BIS Working Papers No. 251*.

(4) Caballero, R. J. and A. Krishnamurthy, 2009, “Global Imbalances and Financial Fragility”, *NBER Working Paper 14688*.

(5) Criado, S. and A. v. Rixtel, 2008, “Structured Finance And The Financial Turmoil Of 2007-2008: An Introductory Overview”, *Working Paper*.

(6) Crotty, J., 1985, "The Centrality of Money, Credit, and Financial Intermediation in Marx's Crisis Theory: An Interpretation of Marx's Methodology", *Working Paper*.

(7) Diamond, D. W. and R. Rajan, 2009, "The Credit Crisis: Conjectures about Causes and Remedies", *NBER Working Paper 14739*.

(8) Dooley, M. P., D. Folkerts-Landau, et al., 2008, "Will Subprime Be A Twin Crisis For The United States?", *NBER Working Paper 13978*.

(9) Dungey, M., R. Fry, et al., 2008, "Are Financial Crises Alike?", *CAMA Working Paper 15/2008*.

(10)Fernandez, L., F. Kaboub, et al., 2008, "On Democratizing Financial Turmoil: A Minskian Analysis of the Subprime Crisis", *The Levy Economics Institute Working Paper No. 548*.

(11)Foote, C. L., K. Gerardi, et al., 2008, "Subprime Facts: What (We Think) We Know about the Subprime Crisis and What We Don't", *Working Paper*.

(12)Fratianni, M., 2008, "Financial Crises, Safety Nets And Regulation", *Working Paper*.

(13)Gorton, G. B., 2009, "Information, Liquidity, and the (Ongoing) Panic of 2007", *NBER Working Paper 14649*.

(14)Hellwig, M., 2008, "Systemic Risk in the Financial Sector: An Analysis of the Subprime-Mortgage Financial Crisis", *Working Paper*.

(15)Holmes, Alan R., 1969, "Operational Constraints on the Stabilization of Money Supply Growth," *Controlling Monetary Aggregates, Proceedings of the Monetary Conference.* Nantucket Islan.

(16)Horta, P., C. Mendes, et al., 2008, "Contagion effects of the US Subprime Crisis on Developed Countries", *CEFAGE-UE Working Paper 2008/08*.

(17)Jorgenson, D. W., M. S. Ho., et al., 2005, *Information Technology and the American Growth Resurgence*, The MIT Press.

(18)Kregel, J., 2008, "Minsky's Cushions Ofsafety: Systemic Risk and the Crisis in the U.S. Subprime Mortgage Market", *Working Paper*.

(19)Lavoie, M., 2003, "A Primer on Endogenous Credit-Money," in L.-P. Rochon and S. Rossi, eds, *Modern Theories of Money: The Nature and Role of Money in Capitalist Economics*. Edward Elagar Publishing Limited.

(20)Lavoie, M., 2007, "Endogenous Money: Accommodationist," in P. Arestis and M. Sawyer, eds, *A Handbook of Alternative Monetary Economics*. Cheltenham: Edward Elgar.

(21)Lim, M. M.-H., 2008, "Old Wine in a New Bottle: Subprime Mortgage Crisis—Causes and Consequences", *The Levy Economics Institute Working Paper No. 532*.

(22)Orlowski, L. T., 2009, "Stages of the 2007/2008 Global Financial Crisis: Is There a Wandering Asset-Price Bubble?", *MPRA Paper No. 12696*.

(23)Palumbo, M. G. and J. A. Parker, 2009, "The Integrated Financial and Real System of National Accounts for the United States: Does It Presage the Financial Crisis?", *NBER Working Paper 14663*.

(24)Perelstein, J. S., 2009, "Macroeconomic Imbalances in the United States and Their Impact on the International Financial System", *The Levy Economics Institute Working Paper No. 554*.

(25)Reinhart, C. M. and K. S. Rogoff, 2008, "Is the 2007 U.S. Sub-Prime Financial Crisis So Different? An International Historical Comparison", *NBER Working Paper 13761*.

(26)Rochon, Louis-Philippe, 2005, *the Existence of Monetary Profits Within the Monetary Circuit,* In Giuseppe Fontana and Riccardo Realfonzo, eds., the Monetary Theory of Production. New York: Macmillan.

(27)Taylor, J. B., 2009, "The Financial Crisis and the Policy Responses: An Empirical Analysis of What Went Wrong", *NBER Working Paper 14631*.

(28) 2007

(29) IT 2009 6

2009 年 12 月，全球经济仍处于艰难复苏的进程之中，希腊首先爆发出债务危机，主权信用等级被国际三大信用评级机构下调。进入 2010 年以后，经济发展缓慢、政府债务高企的希腊、爱尔兰、葡萄牙、意大利、西班牙等五国（合称为 PIIGS 五国，或“欧猪五国”）的债务可持续性和政府融资能力陆续遭受市场怀疑，投资者的担忧提高了这些国家的市场融资成本，加剧了其财政困难程度，进一步延缓了经济复苏，形成了恶性循环。尽管从 2010 年 5 月开始，欧盟和国际货币基金组织（IMF）就开始讨论和实施各种援助方案，但由于欧元区对于跨国援助与财政合作缺乏经验，危机国家受制于国内压力，财政整顿步履维艰，而非危机国家则低估了债务危机的外溢风险，试图以政治上的权宜之计规避责任，欧元区各国在危机爆发的初期失去了控制局势的最佳机会。2011 年以来，不断加剧的危机影响开始向投资者、银行业乃至欧盟核心国家扩散。10 月 27 日的欧元区峰会达成的包括减记希腊债务、增资欧洲银行业、提高欧洲金融稳定工具（EFSF）实力三项内容的援助协议，短期内部分地挽回了市场信心。但援助的前提是财政紧缩，而紧缩的财政既无力救助困境中的银行业，也无法刺激经济增长；收缩信贷的银行业进一步加重了政府的融资压力，也成为投资增长的障碍；黯淡的增长前景则限制了银行业的盈利能力，也使得改善政府账户状况显得愈加困难。欧债危机进入前途叵测的第二阶段，最好的估计是，危机国家将进入漫长的调整期，整个欧洲可能都将受到拖累。

PIIGS

2001 GDP 100%

2009

2010

2010 4 IMF

2011 6

284 2015

GDP 1%

Chorafas, 2011 Manolopoulos, 2011.)

2008

2010 11 150

IMF 850

2011 3

780

2010

2010 5

2011

700

; 9 540

2013

PIIGS

	Moody's		Standard & Poor's		Fitch	
	2011/7/25	Ca	2011/7/27	CC	2011/7/13	CCC
	2011/6/1	Caa1	2011/5/9	B	2011/5/20	B
	2011/3/7	B1	2010/4/27	BB	2011/1/14	BB+
	2010/6/14	Ba1	2009/12/16	BBB	2010/4/9	BBB-
	2010/4/22	A3	2009/12/7	A	2009/12/8	BBB+
	2009/12/22	A2			2009/10/22	A-
	2009/10/29	A1				
	2011/7/12	Ba1	2011/4/1	BBB	2010/12/9	BBB+
	2011/4/15	Baa3	2010/11/23	A	2010/10/6	A+
	2010/12/17	Baa1	2010/8/24	AA-	2009/11/4	AA-
	2010/7/19	Aa2	2009/6/8	AA	2009/4/8	AA+
	2009/7/2	Aa1	2009/3/30	AA+		
	2011/7/5	Ba2	2011/3/24	BBB	2011/4/1	BBB-
	2011/4/5	Baa1	2010/4/27	A	2011/3/24	A-
	2011/3/15	A3	2009/1/13	AA-	2010/12/23	A+
	2010/7/13	A1	2009/1/12	A+	2010/3/24	AA-
	2010/5/5	Aa2				
	2011/10/4	A2	2011/10/19	A+	2011/10/7	A+
	2011/6/17	Aa2				
	2011/3/10	Aa2	2010/4/28	AA	2011/10/7	AA-
	2010/9/30	Aa1	2009/1/19	AA+	2010/5/28	AA+

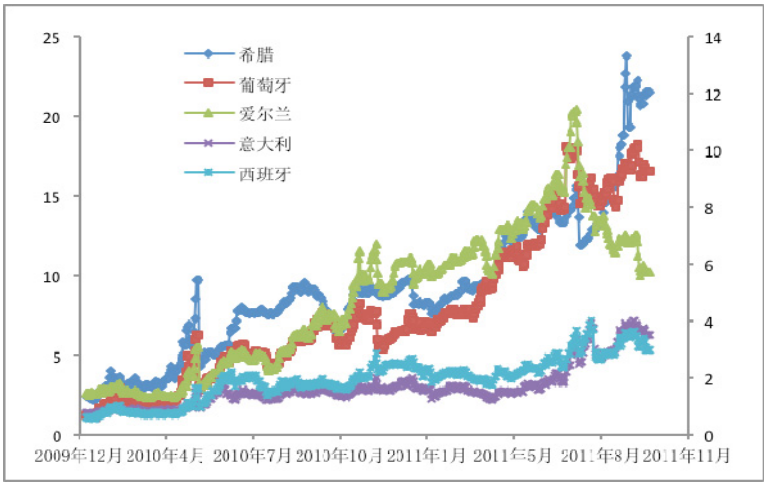
1

PIIGS

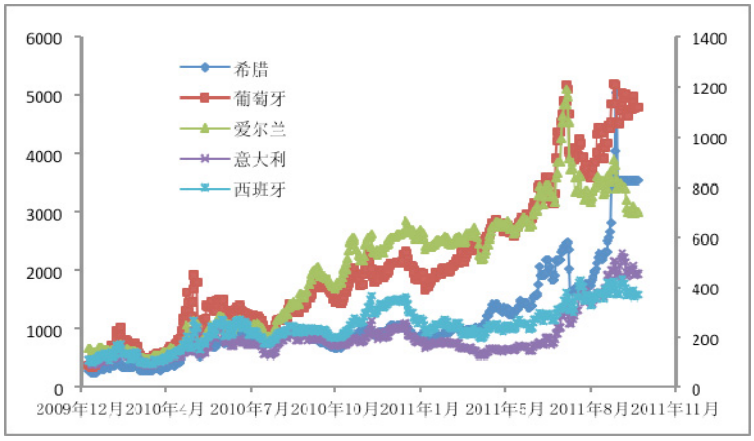
IMF primary surplus

3-5% IMF, 2010

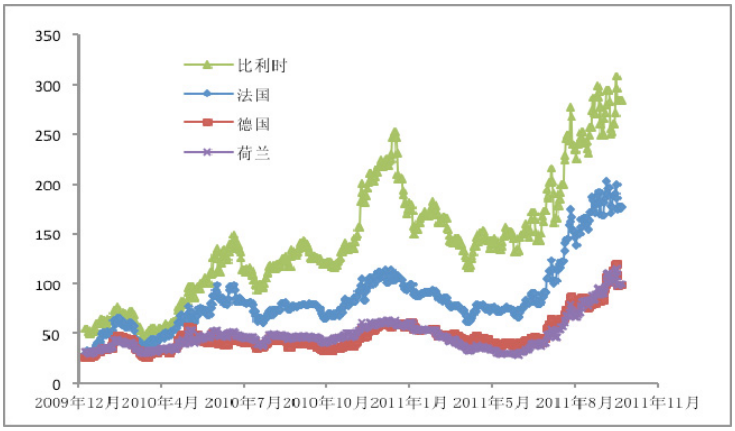
PIIGS



PIIGS CDS



CDS



2

1.2 PIIGS 6410

5%

50

9

PIIGS

	237.7	569.42	45.33	11.48	146.53	1278.37
	1165.27	301.01	134.19	100.98	1366.24	3783.59
	1649.32	4102.38		357.94	688.71	8191.85
	388.62	283.49	43.31	884.78	266.08	2045.96
	1778.59	1460.85	317.62		1008.01	6370.96
	5219.5	6717.15	540.45	1355.18	3475.57	21670.73

3

2011 12 82

2012 3 160

IMF

11 3

4 242

11 3

IMF

11 345 2

630 11 3 4

11

4

IMF

5.5% 2012

1000

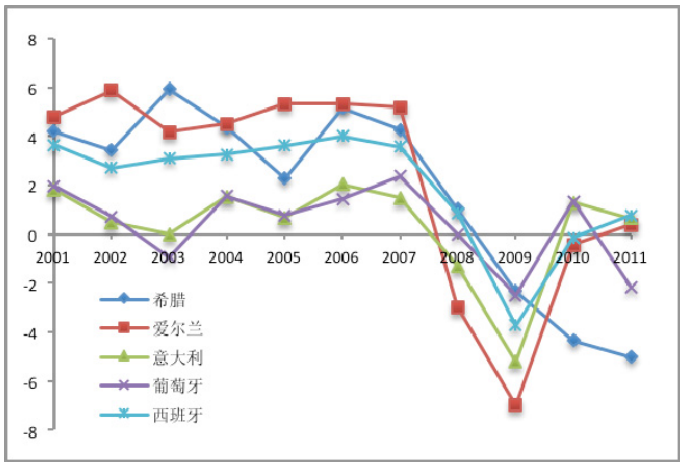
2001 2010 0.2%

1.1% 1%

8 50

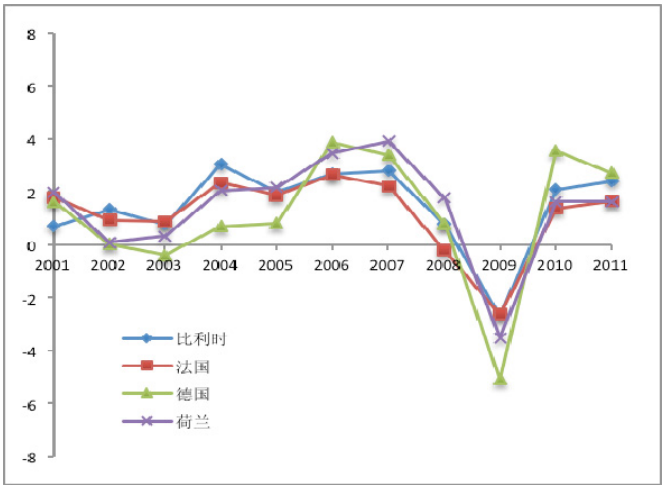
2012 1%

PIIGS GDP



2011 IMF

GDP



2011 IMF

2011 10 27

GDP 50% GDP

145%;

;

EFSF

Reinhart and Rogoff, 2009

;

;

fiscal devaluation

fiscal consolidation Pereira and Pereira, 2011

;

GDP 20%

20-30% GDP 10%

1999

11 2000 2007

2008 2009 2011

17

1

2

3

4

GDP 1%

2008 “ ”

“

”

5

GDP 3% GDP 60%

GDP 3%

;

peer review

Bordo et al, 2011

Baldwin et al, 2010.

GDP

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
	0.4	-0.1	-0.1	-0.3	-2.7	0.1	-0.3	-1.3	**-5.8**	**-4.1**
	-2.8	**-3.7**	**-4**	**-3.8**	**-3.3**	-1.6	0.2	-0.1	**-3.2**	**-4.3**
	-0.1	0.3	1.7	1.6	1.6	2.4	2.4	-2.9	-2	0.2
	0.9	-0.4	0.4	1.4	1.6	2.9	0.1	**-7.3**	**-14.2**	**-31.3**
	-4.5	**-4.8**	**-5.6**	**-7.5**	**-5.2**	**-5.7**	**-6.5**	**-9.8**	**-15.8**	**-10.6**
	-0.6	-0.5	-0.2	-0.3	1	2	1.9	**-4.5**	**-11.2**	**-9.3**
	-1.5	**-3.1**	**-4.1**	**-3.6**	-2.9	-2.3	-2.7	**-3.3**	**-7.5**	**-7.1**
	-3.1	-2.9	**-3.5**	**-3.5**	**-4.3**	**-3.4**	-1.6	-2.7	**-5.4**	**-4.6**
	-2.2	-4.4	-6.5	-4.1	-2.4	-1.2	3.5	0.9	**-6.1**	**-5.3**

	6.1	2.1	0.5	-1.1	0	1.4	3.7	3	-0.9	-1.1
	-6.4	-5.5	-9.9	-4.7	-2.9	-2.8	-2.4	**-4.6**	**-3.7**	**-3.6**
	-0.2	-2.1	**-3.1**	-1.7	-0.3	0.5	0.2	0.5	**-5.6**	**-5.1**
	0	-0.7	-1.5	**-4.5**	-1.7	-1.6	-0.9	-0.9	**-4.1**	**-4.4**
	-4.3	-2.9	-3	**-3.4**	**-5.9**	**-4.1**	**-3.1**	**-3.6**	**-10.1**	**-9.8**
	-4	-2.5	-2.7	-2.3	-1.5	-1.4	0	-1.9	**-6.1**	**-5.8**
	-6.5	-8.2	-2.8	-2.4	-2.8	-3.2	-1.8	-2.1	**-8**	**-7.7**
	5	4	2.4	2.3	2.7	4	5.3	4.3	-2.5	-2.5

GDP

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
	106.6	**103.5**	**98.5**	**94.2**	**92.1**	**88.1**	**84.1**	**89.3**	**95.9**	**96.2**
	58.8	**60.4**	**63.9**	**65.8**	**68**	**67.6**	**65.2**	**66.7**	**74.4**	**83.2**
	4.8	5.7	5.6	5	4.6	4.4	3.7	4.5	7.2	6.7
	35.5	32.1	30.9	29.6	27.4	24.8	24.9	44.3	**65.2**	**94.9**
	103.7	**101.7**	**97.4**	**98.6**	**100**	**106.1**	**107.4**	**113**	**129.3**	**144.9**
	55.5	52.5	48.7	46.2	43	39.6	36.2	40.1	53.8	**61**
	56.9	58.8	**62.9**	**64.9**	**66.4**	**63.7**	**64.2**	**68.2**	**79**	**82.3**
	108.8	**105.7**	**104.4**	**103.9**	**105.9**	**106.6**	**103.1**	**105.8**	**115.5**	**118.4**
	60.7	64.6	68.9	70.2	69.1	64.6	58.8	48.9	58.5	**61.5**
	6.3	6.3	6.1	6.3	6.1	6.7	6.7	13.7	14.8	19.1
	62.1	60.1	69.3	72.4	69.6	64.2	62.1	**62.2**	**67.8**	**69**
	50.7	50.5	52	52.4	51.8	47.4	45.3	58.5	**60.8**	**62.9**
	67.3	**66.7**	**65.8**	**65.2**	**64.6**	**62.8**	**60.2**	**63.8**	**69.5**	**71.8**
	51.2	53.8	55.9	57.6	**62.8**	**63.9**	**68.3**	**71.6**	**83**	**93.3**
	26.7	27.9	27.3	27.4	26.7	26.4	23.1	21.9	35.3	38.8
	48.9	43.4	42.4	41.5	34.2	30.5	29.6	27.8	35.5	41
	42.5	41.5	44.5	44.4	41.7	39.7	35.2	33.9	43.3	48.3

6000 PIIGS 1000

3.2 4.45%

PIIGS

2010

1% 3.7%

Baldwin, R, D Gros, and L Laeven ed. (2010), Completing the Eurozone Rescue: What More Needs to be Done? CEPR Publication.

Bordo M D, A Markiewicz, and L Jonung (2011), A Fiscal Union for the Euro: Some Lessons from History, NBER Working Paper.

Chorafas D N (2011), Sovereign Debt Crisis: The New Normal and the Newly Poor, Palgrave Macmilan.

International Monetary Fund, Fiscal Monitor: Addressing Fiscal Challenges to Reduce Economic Risks, September 2011.

International Monetary Fund, Global Financial Stability Report: Grappling with Crisis Legacies, September 2011.

Manolopoulos J (2011), Greece ' s `Odious ' Debt: The Looting of the Hellenic Republic by the Euro, the Political Elite and the Investment Community, Anthem Press.

Pereira A M, and R M Pereira (2011), On the Economic and Budgetary Impact of Fiscal Devaluation in Portugal, Working Paper.

Reinhart C M and K S Rogoff (2009), This Time is Different: Eight Centuries of Financial Folly, Princeton University Press.

在过去的 30 年中，全球化进程加速，美国与世界其他国家的联系越来越紧密。在这种趋势下，进出口占美国国内生产总值显著上升。国际贸易的发展使得发展中国家和发达国家逐渐形成一体。同时这也导致美国制造业收缩，工资差异加大。美国舆论认为，国际竞争导致了美国制造业的收缩，同时降低了美国经济增长，来自低工资国家的进口也加大国内的工资差异。本文先总结回顾最近几十年中美国制造业和进出口的基本情况和发展趋势，然后分析确认国际贸易对美国制造业的影响。本文认为进出口上升不能完全解释美国制造业长期发展的趋势， 技术革新和生产力的上升也是影响美国制造业发展的重要因素；但是来自发展中国家的进口对美国制造业有显著的影响，制造业工作减少，尤其是低技能密集型工作的减少。 最后本文分析了低工资国家的发展调整对美国制造业以及劳动市场未来的发展影响。

3 4

50%

, ,

30

2008 2009

1

15% 20% 2010

$7 31%

2000 $3.8 23%

2

3

4

30

1980

32% 2010 52%

82%

30

Wood (1991a, b)

Wood(1994)

Batra(1993) Leamer (1993,1994)

Batra(1993)

Leamer(1993,1994)

Lawrence and Slaughter (1993) Krugman and Lawrence (1994)

1 HO

Slaughter(1999)

Leamer(2001) 19 70

80 2

Feenstra and Hanson(1999) 1970 1996

15% 24% 3

1979

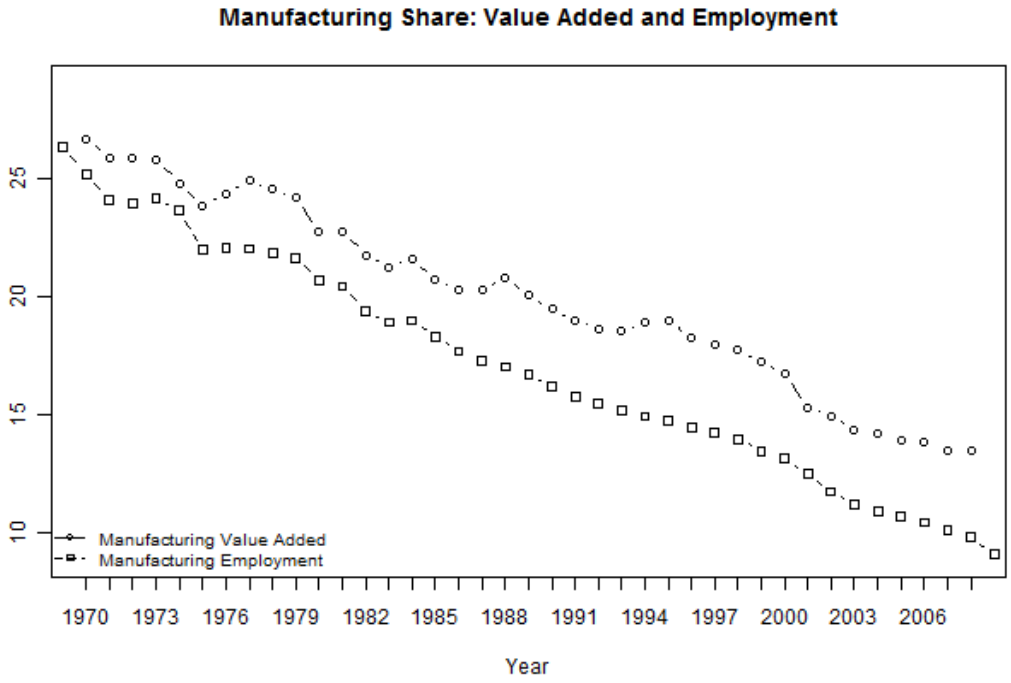
Blum(2008) Ricardo

60%

Freeman and Katz(1991)

Sachs and Shatz(1994)

Bernard et al. (2005)



1

1

1970 2007 1970

27% 26.3% 2007

15% 10%

1970 2007 1

9.42% 75.15% 2007

3/4

1

1970 10.56% 2007 47.21%

1 **1970-2007**

1970	25.14	10.56	9.42	2.81	2.51	0.30
1980	20.69	23.46	20.39	5.34	4.64	0.70
1990	16.16	26.09	33.79	5.07	6.57	-1.50
2000	13.10	39.12	58.80	6.54	9.82	-3.29
2007	10.09	47.21	75.15	6.36	10.13	-3.77

2 1960 2008

1960 1970 1%

1970 2008

4%

27% 15% 50%

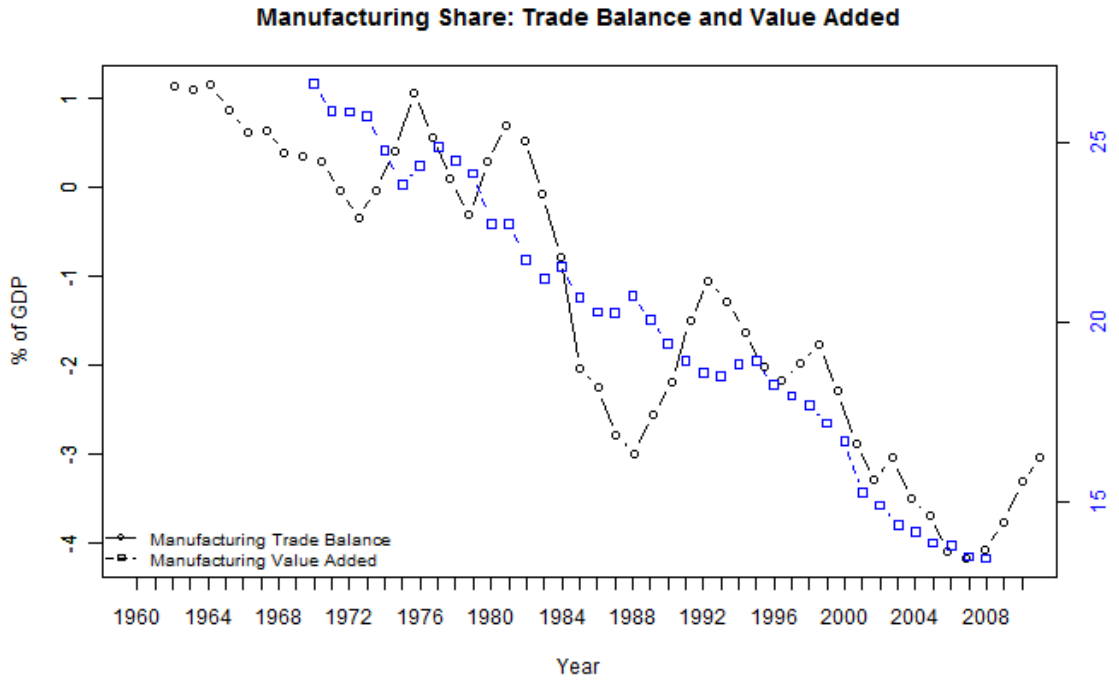
1970 2008

3

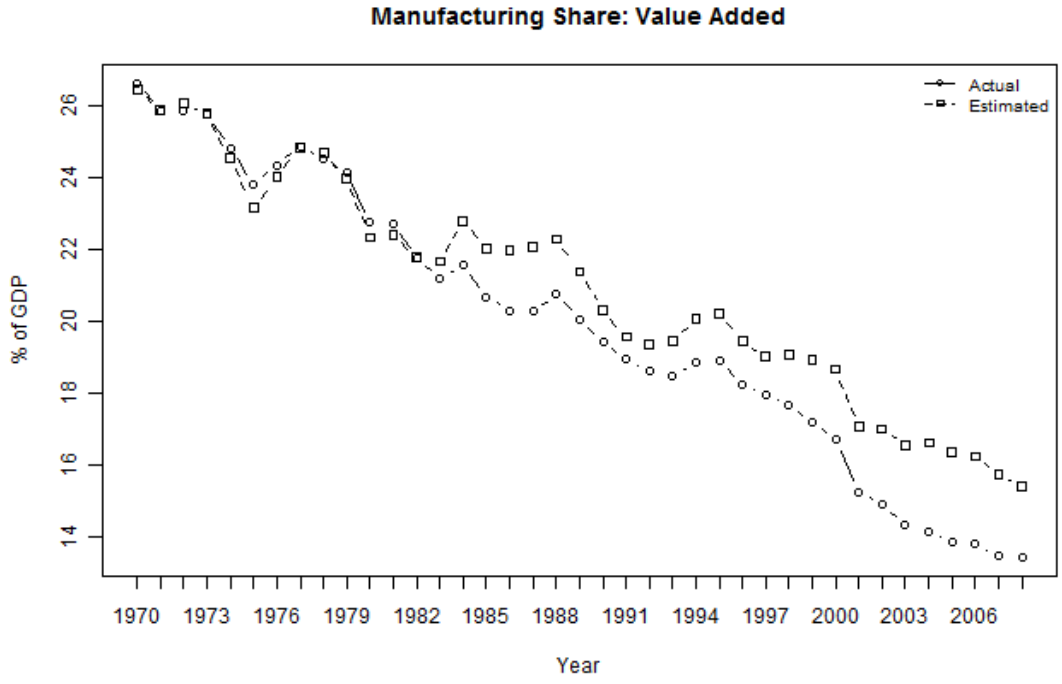
1970 2008

26.3% 13.4% 26.4% 15.4%

85%


Manufacturing Share: Trade Balance and Value Added
% of GDP
Year
Manufacturing Trade Balance
Manufacturing Value Added
1960 1964 1968 1972 1976 1980 1984 1988 1992 1996 2000 2004 2008
-4 -3 -2 -1 0 1
15 20 25

2


Manufacturing Share: Value Added
% of GDP
Year
Actual
Estimated
1970 1973 1976 1979 1982 1985 1988 1991 1994 1997 2000 2003 2006
14 16 18 20 22 24 26

3

1970 2008

4

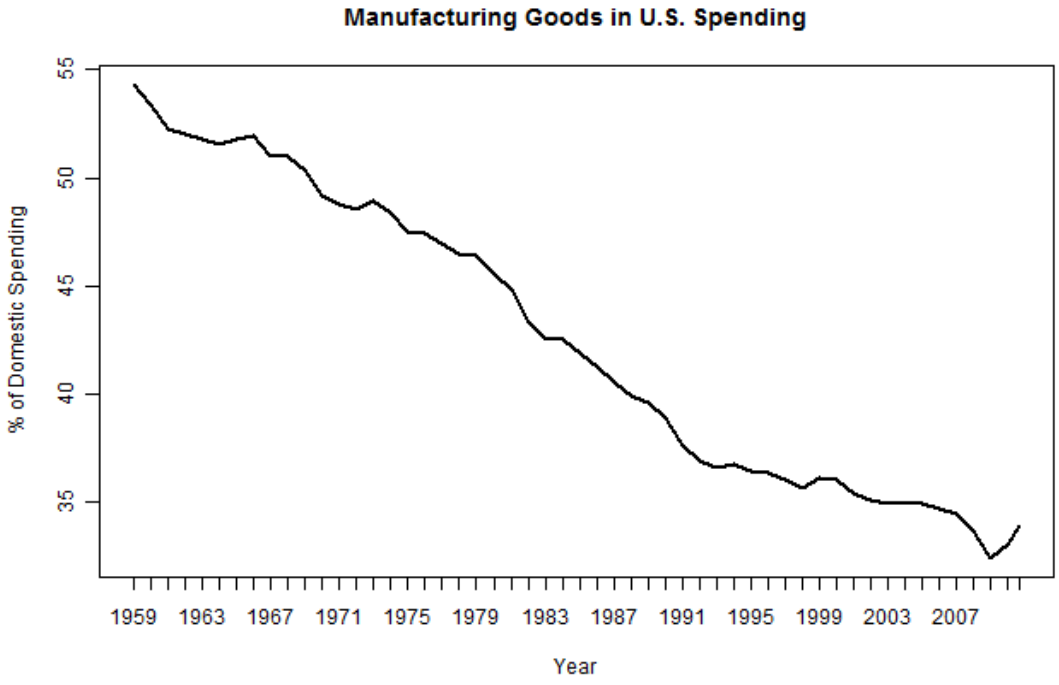
1960 53% 47%

2008 33%

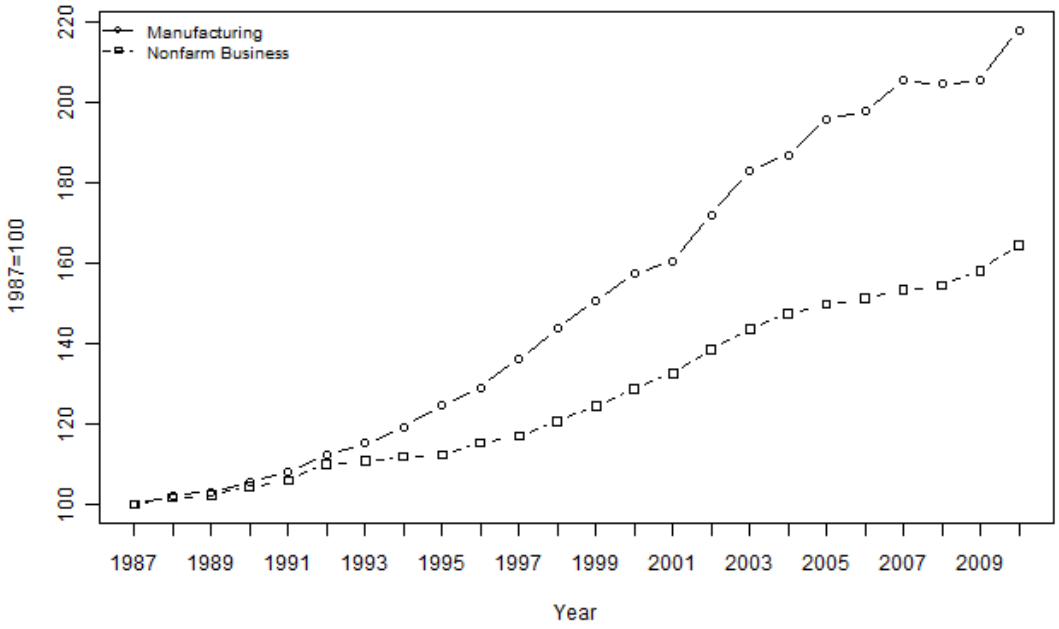
67%

5

30



4



5

30

2 1970 2008

1970 1970 2.52%

2008 10%

1970 9.47%

2008 74.24%

1 2

3

2

1970 0.49%

1.85% 2008

4.83% 35.9%

3 1990 2010

1990 75%

25% 2010 48.3%

51.7%

2

1970	2.52	0.49	9.47	1.85
1980	4.64	1.49	20.37	6.55
1990	6.57	1.60	33.80	8.22
2000	9.83	3.57	58.83	21.39
2008	9.98	4.83	74.24	35.91

3 1990 2010

	1990		2010		Change, 1990-2010	
	517,000	100.0	1,970,000	100.0	1,453,000	0.0
	387,592	75.0	95,2418	48.3	564,826	-26.7
	129,408	25.0	1,017,582	51.7	888,174	26.7

4 10 10

80% 1990

2.9% 2010 18.5%

1980 2 3 4

4 **1990 2010**

	1990		2010		, 1990-2010	
Top 10 developing countries	101,047	19.5	834,474	42.4	733,427	22.8
China	15,224	2.9	364,944	18.5	349,720	15.6
Mexico	30,172	5.8	229,655	11.7	199,482	5.8
Korea	18,493	3.6	48,860	2.5	30,366	-1.1
Venezuela	9,447	1.8	32,775	1.7	23,328	-0.2
Nigeria	5,977	1.2	30,516	1.5	24,539	0.4
India	3,191	0.6	29,531	1.5	26,340	0.9
Malaysia	5,272	1.0	25,905	1.3	20,632	0.3
Russia	0	0.0	25,685	1.3	25,685	1.3
Brazil	7,976	1.5	23,918	1.2	15,942	-0.3
Thailand	5,294	1.0	22,687	1.2	17,393	0.1

Krugman (1993)

HOS

HOS

HOS

HOS 1

2

3 4

5

NBER NBER

NAICS

NBER 2005

5 5 1

10 5

2005

46% 84%

22.83% 10.74%

5 2005

1	46.03	34.49	22.83	9.32	25.90
2	58.97	47.59	15.22	7.97	13.13
3	64.14	52.61	6.37	4.74	6.21
4	68.69	57.87	7.30	7.91	8.41
5	71.66	59.44	6.92	11.16	10.45
6	74.35	64.07	7.57	9.73	7.84
7	76.46	66.09	5.57	7.72	5.54
8	78.16	68.43	9.00	15.08	9.90
9	80.57	71.86	8.49	10.43	5.89

10	84.43	76.72	10.74	15.96	6.73

5

5 1997 2005

7 1997 2005

6 1997 2005

	1997	2005		1997	2005		1997	2005	
1	2.38	-20.47	-22.85	0.51	-14.57	-15.08	1.86	-5.90	-7.77
2	-0.95	-22.85	-21.90	3.19	-15.07	-18.26	-4.14	-7.78	-3.64
3	2.00	-33.69	-35.69	2.73	-23.71	-26.44	-0.73	-9.99	-9.26
4	-26.28	-14.60	11.68	-15.89	-10.93	4.97	-10.38	-3.67	6.71
5	-7.78	-29.69	-21.90	-5.61	-23.83	-18.23	-2.18	-5.85	-3.68
6	-19.58	-22.20	-2.62	-13.09	-14.33	-1.24	-6.49	-7.87	-1.38
7	-8.70	-24.67	-15.97	-5.12	-17.34	-12.22	-3.58	-7.33	-3.75
8	-7.20	-19.64	-12.44	-1.43	-14.40	-12.97	-5.77	-5.24	0.53
9	-9.39	-32.57	-23.18	-4.47	-17.83	-13.36	-4.92	-14.74	-9.82
10	-39.22	-76.02	-36.81	-10.80	-10.73	0.07	-28.41	-65.29	-36.88

7 **1997** **2005**

1	-12.01	-9.65	-10.74
2	-19.74	-20.26	-19.96
3	10.56	7.54	9.46
4	32.71	25.28	30.30
5	16.17	9.64	14.25
6	-50.22	-52.66	-50.87
7	-26.35	-28.52	-26.87
8	-19.57	-19.43	-19.54
9	-23.51	-25.92	-23.99
10	-47.16	-44.75	-46.80

Batra, Ravi, 1993. The Myth of Free Trade. New York: Charles Scribner's Sons.

Bernard, A.B., Jensen, J.B., Schott, P.K., 2006. Survival of the best fit: Exposure to low-wage countries and the (uneven) growth of US manufacturing plants. Journal of International Economics, 68, 219-237.

Freeman, R., Katz, L., 1991. Industrial wage and employment determination in an open economy. In: Abowd, John M., Freeman, Richard B. (Eds.), Immigration, Trade and Labor Market. University of Chicago Press, Chicago.

Krugman, Paul, and Robert Z. Lawrence, 1994. Trade, Jobs, and Wages, Scientific American. 270:4, 44-9.

Lawrence, Robert Z., and Matthew J. Slaughter, 1993. International Trade and American Wages in the 1980s: Giant Sucking Sound or Small Hiccup. Brookings Papers on Economic Activity, 2, pp. 161-226.

Leamer, Edward E., 1993. Wage Effects of a U.S.-Mexican Free Trade Agreement. In Peter M. Garber, ed., The Mexico-U.S. Free Trade Agreement. Cambridge, Mass.: MIT Press, pp. 57-125.

Leamer, Edward E., 1994. Trade, Wages and Revolving-Door Ideas. Working Paper No. 4716, National Bureau of Economic Research, Cambridge.

Wood, Adrian, 1991a. How Much Does Trade with the South Affect Workers in the North? World Bank Research Observer 6, 19-36.

Wood, Adrian, 1991b. The Factor Content of North-South Trade in Manufactures Reconsidered. Weltwirtschaftliches Archiv, 127, 719-43.

Wood, Adrian, 1994. North-South Trade, Employment and Inequality: Changing Fortunes in a Skill-Driven World. Oxford: Clarendon Press.

Sachs, J.D., Shatz, H.J., 1994. Trade and jobs in U.S. manufacturing. Brookings Papers on Economic Activity 1, 1-69.

WDI

WDI USITC

USITC

NAICS

NBER

TFP 1958 2005 NAICS

本文回顾了文献中关于出口产品分类的三种主要方法以及将它们用于中国出口增长结构性分析得到的主要证据。主要结论是：1）中国出口产品种类增加明显，资本密集和技术密集型行业重要性增加，产品差异化程度也大幅提高。2）中国出口增长依赖的是原有产品类别的持续增长，来自新产品类别的贡献并不明显；同时，这种沿集约边际的扩张主要是数量上的扩张。3）中国出口的商品篮的技术含量也并没有超过收入水平类似国家的水平。这些事实说明中国的比较优势模式不仅没有发生明显改变，还在进一步固化和深化。

Melitz 2003

Heterogeneous Firms

intensive margin

extensive margin

1

6

(the Harmonized Commodity Description and Coding System HS) 90%

5000 1 HS

DACI Shi 2011 2001 2007

1 :

1 2001-2007

易伙			%	易伙			%
	2001	2007			2001	2007	
	3063	4156	5.09		1720	2930	8.88
	3624	4103	2.07		2796	3638	4.39
	3280	4142	3.89		3045	3919	4.21
	3177	4202	4.66		1677	2883	9.03
	2774	3808	5.28		1434	2791	11.1
	3230	4036	3.71		2866	3755	4.5
	3042	4143	5.15		2454	3523	6.03

[1] http://www.cepii.fr/anglaisgraph/bdd/baci/baciwp.pdf

	3669	4175	2.15		1326	2641	11.48
	2453	3937	7.89		2419	3675	6.97
	1946	3151	8.03		1609	2909	9.87
	1586	3457	12.99		3030	3822	3.87
	1713	3037	9.54				

: Shi(2001) Table 2.

1 2001 2007

4% 2007 HS 5000

2001

2008 , 11

1995-2005 92 HS-6 1009

Nataraj and

Tandon (2011)

2001 2006 SITC3 15

2 15

2 15 %

	SITC 3		%			%	
			(2001-2006)	2000-2002	2004-2006	2000-2002	2004-2006
1	764		38.27	1.73	2.41	5.643	8.123
2	761		47.26	1.26	1.89	0.618	1.122
3	662	/	48.59	0.81	1.5	0.144	0.256

4	811	制	96.24	0.13	0.76	0.006	0.043
5	745	子	41.36	0.45	0.68	0.181	0.281
6	681	和白金	62.92	0.45	0.61	0.076	0.142
7	812	浴、水管和	51.27	0.34	0.59	0.036	0.071
8	749	子	32.23	0.43	0.58	0.11	0.131
9	742		37.49	0.39	0.49	0.13	0.177
10	581		44.58	0.26	0.41	0.029	0.051
11	675		101.05	0.06	0.25	0.021	0.121
12	583		57.59	0.09	0.2	0.003	0.008
13	726		43.05	0.1	0.19	0.022	0.036
14	781		102.52	0	0.02	0.009	0.108
15			25.78	1	1	7.029	10.67

Nataraj and Tandon (2011) Table 3

(homogeneous products)

(differentiated products)

,

Rauch(1999) (reference price)

(organized trade)

Kang (2008) Rauch 1962-2000 SITC 4 SITC 4 1189 146 348 694

3

1984–1992	0.478	0.134	0.035	0.035
1993–2000	0.722	0.097	0.129	0.05
1984–2000	0.593	0.116	0.247	0.042
1984–1992	0.826	0.102	0.004	0.066
1993–2000	0.812	0.094	0.005	0.086
1984–2000	0.82	0.099	0.005	0.075
1984–1992	0.765	0.165	0.027	0.042
1993–2000	0.699	0.185	0.04	0.074
1984–2000	0.734	0.175	0.033	0.057

: Kang (2008) Table 1.

3 1984-1992

, , (1993-2000)

0.722, , ,Kang (2008)

2

,

Feenstra 1994

, ,

, t t-1 I_t I_{t-1}

$$I = I_{t-1} \bigcap I_{t-1}$$

:

$$\frac{c(p_t, I_t)}{c(p_{t-1}, I_{t-1})} = \left(\frac{\lambda_t(I)}{\lambda_{t-1}(I)} \right)^{1/(\sigma-1)} \prod_{i \in I} \left(\frac{p_{it}}{p_{it-1}} \right)^{w_i(I)}$$

$$w_i(I) = \left(\frac{s_{it}(I) - s_{it-1}(I)}{\ln s_{it}(I) - \ln s_{it-1}(I)} \right) \Big/ \sum_{i \in I} \left(\frac{s_{it}(I) - s_{it-1}(I)}{\ln s_{it}(I) - \ln s_{it-1}(I)} \right)$$

$$s_{it}(I) = p_{it} x_{it} \Big/ \sum_{i \in I} p_{it} x_{it}$$

$$\lambda_t(I) = \frac{\sum_{i \in I} p_{it} x_{it}}{\sum_{i \in I_t} p_{it} x_{it}} = 1 - \frac{\sum_{i \in I_t, i \notin I} p_{it} x_{it}}{\sum_{i \in I_t} p_{it} x_{it}}$$

$\lambda_{t(I)} \big/ \lambda_{t-1}(I)$

, ,

$\prod_{i \in I} \left(\frac{p_{it}}{p_{it-1}} \right)^{w_i(I)}$,

Feenstra 1994 , Hummels and Klenow 2005

:

$$EM_{jm} = \frac{\sum_{i \in I_{jm}} p_{kmi} x_{kmi}}{\sum_{i \in I} p_{kmi} x_{kmi}}$$

I_{jm} j m I

m EM j m

m

$$IM_{jm} = \frac{\sum_{i \in I_{jm}} p_{jmi} x_{kmi}}{\sum_{i \in I_{jm}} p_{kmi} x_{kmi}}$$

j m j m

IM

$$IM_{jm} = P_{jm} X_{jm}$$

$$P_{jm} = \prod_{i \in I_{jm}} \left(\frac{p_{jmi}}{p_{kmi}} \right)^{w_{jmi}}$$

w_{jmi} j m i j m

m i m

$$s_{jmi} = \frac{p_{jmi} x_{jmi}}{\sum_{i \in I_{jm}} p_{jmi} x_{jmi}} \qquad s_{kmi} = \frac{p_{kmi} x_{kmi}}{\sum_{i \in I_{jm}} p_{kmi} x_{kmi}}$$

$$w_{jmi} = \left(\frac{s_{jmi} - s_{kmi}}{\ln s_{jmi} - \ln s_{jmi}} \right) \Big/ \sum_{i \in I_{jm}} \left(\frac{s_{jmi} - s_{jmi}}{\ln s_{jmi} - \ln s_{jmi}} \right)$$

1995 , 150

9.3%

70%

13% 56%

23%

Hummels and Klenow

Shi 2011 2001 2007

4

	2007 年数据和 2001 年数据相比				出口增		率 %
	出口		价格	数量		价格	数量
世界	4.75	1.27	1.28	2.94	15.14	15.67	69.18
美国	4.81	1.33	2.9	1.25	17.94	67.84	14.22

印尼	4.88	1.16	1.13	3.74	9.22	7.59	83.19
泰国	4.45	1	1.32	3.38	−0.09	18.63	81.46
香港	3.75	1.71	3.5	0.62	40.72	94.88	−35.60
国	4.53	1.02	1.3	3.44	1.07	17.18	81.76
法国	4.12	0.95	1.68	2.57	−3.27	36.64	66.63
德国	4.3	0.97	1.51	2.94	−1.84	28.04	73.8
意大利	4.55	1.03	1.42	3.11	2.15	22.94	74.91
英国	3.41	0.99	1.38	2.51	−1.01	26.07	74.94

注：摘自 Shi （2011）中的 Table4

4 ,2007 2001 ,
241%( ), 71%( )
10%,
! 1
,
,

80%
, 4
,

, , /
, 5 ISIC3 ,
, 2001-2007 314
137% , 384 106%
40% , 11% 30%
381-385 , 551%
1092% 12% 106%
,
4 , , /

表 5 中国行　　解

ISIC 2 3		2007 年数据和 2001 年数据相比				出口增		率 %
		出口		价格	数量		价格	数量
311	食品制造	3.52	1.16	1.02	2.96	12.08	1.8	86.11
313	料	2.89	1.41	0.56	3.67	32.21	−54.88	122.66
314	香烟	2.37	1.48	0.62	2.59	45.19	−55.45	110.26
321		4.47	1.3	0.97	3.54	17.51	−1.99	84.48
322		4.08	1.13	1.2	3.01	8.95	12.69	78.37
323		3.16	1.12	1.5	1.89	9.74	35.03	55.23
324		4.18	1.11	1.21	3.11	7.2	13.6	79.2
331	**木和木制品**	11.71	1.54	1.19	6.37	17.54	7.21	75.24
332	**包括家具**	3.67	1.2	1.09	2.81	13.75	6.76	79.5
341		8.64	1.43	1.08	5.62	16.51	3.46	80.04
342	**版**	5.44	1.14	0.99	4.84	7.64	−0.70	93.06
351		6.29	1.48	0.86	4.92	21.41	−8.01	86.61
352	**化学品、化学、**	5.84	1.3	1.1	4.11	14.68	5.29	80.04
353	**石油、煤、橡胶**	4.86	1.64	1.09	2.73	31.17	5.29	63.54
354	**和塑料制品**	2.66	1.19	1.35	1.67	17.55	30.27	52.18
355		8.15	1.24	1.33	4.93	10.3	13.63	76.08
356		4.85	1.28	1.46	2.6	15.61	23.96	60.43
361		4.6	1.21	1.55	2.47	12.27	28.5	59.23
362		7.54	1.29	0.92	6.38	12.49	−4.25	91.76
369		10.84	1.49	0.9	8.09	16.79	−4.53	87.73
371	**基　　属**	24.34	2.04	1.74	6.85	22.33	17.4	60.28
372		7.59	1.39	1.17	4.66	16.39	7.66	75.95
381		7.73	1.24	1.31	4.74	10.62	13.33	76.06
382		7.44	1.14	2.18	2.98	6.64	38.93	54.43
383		6.58	1.12	2.05	2.86	6.07	38.09	55.84
384		11.92	2.06	1	5.77	29.19	0.11	70.7
385		6.51	1.41	1.84	2.5	18.48	32.49	49.03
390	**其他制成品**	3.52	0.95	1.47	2.51	−3.76	30.68	73.08

注：　Shi（2011）　Table 5

Feenstra　　Amiti　Freund　2008

，

6

Amiti　Freund　2008　　:1997-2005　，

26% 25%

, 2%

6 ,1997-2005

				Feenstra					(%)
1	7951	100%	World	0.1	0.74	0.33	0.07	0.26	187
					5501	1624	826		
2	6357	100%	US	0.11	0.76	0.29	0.05	0.25	243
					3641	1980	736		
3	4826	76%	US	0.01	0.98	0.02	0	0.02	212
					3641	935	250		

Amiti Freund 2008 Table 3

2008 1995 2005 HS 6

94%

6% 5.19% 17.15%

5.17% 11.28%

3

Hausmann et al.

(2005)

/ PRODY

PRODY / EXPY

$$PRODY_k = \sum_j \frac{\left(x_{jk} / X_j\right)}{\sum_j \left(x_{jk} / X_j\right)} Y_j$$

X_j j Y_j j $\left(x_{jk} / X_j\right) \Big/ \sum_j \left(x_{jk} / X_j\right)$

j k

j

$$EXPY_j = \sum_l \left(\frac{x_{jl}}{X_j}\right) PRODY_l$$

x_{jl} j l

Rodrik 2006 Hausmann et al. (2005) 2002

Xu 2006

Xu 2006

$$Q_{jl} = \frac{u_{jl}}{\sum_j \left(x_{jl} / \sum_l x_{jl}\right) u_{jl}}$$

u_{jl} j i l

l

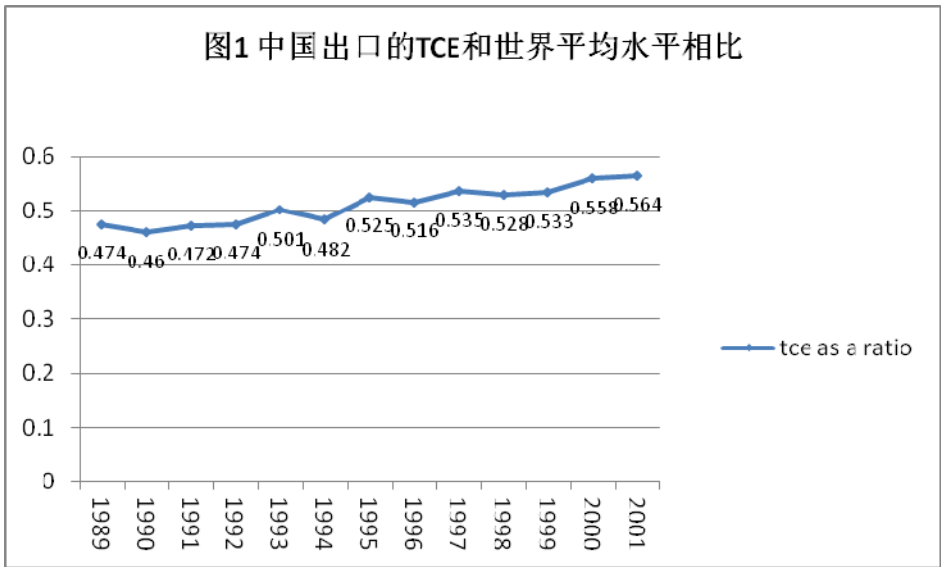
$$TCE_{jl} = \left(Q_{jl}\right)^{\theta} \times PRODY_l$$

θ 0.2 TCE 1989 2001

0.531 0.553

0.933 0.975; 8501 11205

11634 13348 Xu 2006



Xu 2006 Figure 4

4

HS

HS

2007

30

2009

1995

2005

“ ”

IT

2007

2008

mark-up

[J] ,2007,(1).
2010 1
2008 9
2009 1

Hausmann, R. and D. Rodrik (2003) "Economic Development as Self-Discovery" Journal of Development Economics, 72(2): 603-633.

Rodrik, D. (2006) "What's So Special About China's Exports?" NBER Working Paper 11947.

Hummels, D. and P. Klenow (2005). "The Variety and Quality of a Nation's Exports" American Economic Review, 95, 704-723.

Feenstra, R. (1994) "New Product Varieties and the Measurement of International Prices", American Economic Review, LXXXIV, 157-77.

Melitz, Marc J. (2003), "The Impact of Trade on Intraindustry Reallocations and Aggregate Industry Productivity," Econometrica 71, 1695-1725.

Amiti, M., & Freund, C. (2008). An Anatomy of China's Trade Growth. World Bank Policy Research Working Paper Series, No.4628.

Shi, Bingzhan. (2011) "Extensive margin, quantity and price in China's export growth" China Economic review, 22, 233—243

Xu, Bin (2006): "Measuring the Technology Content of China Exports", NBER Working Paper, June.

Nataraj, G. and A. Tandon (2011), "China's Changing Export Structure: A Factor-Based Analysis" Economic and Political Weekly, XLVI no.13, 130-136.

Kang, Kichun (2008) "How much have been the export products changed from homogeneous to differentiated? Evidence from China, Japan, and Korea" China Economic Review, 19, 128—137

进入 21 世纪，中国经济增长将面临人口老龄化加速推进的严峻挑战。本文从长期供给面和短期需求面两个视角深入剖析人口老龄化冲击对中国经济增长的影响机制。笔者发现，老龄化在供给面对经济增长的负面压力主要体现在其对劳动规模的不利影响，而经济个体在人力资本投资上的理性调整将能够缓解这种负面效应；另外，老龄化在需求面将对消费、投资和净出口三个因素都形成一定的压制。从影响机制出发，笔者建议政府要延迟退休年龄，推动农村劳动力转移，增加教育投入并积极调整需求管理政策。

2011

69.7 7.8 60 11%

2100 60

28%

Bloom et al.

2001 Horioka 2006

70

“ ”

1999

2000

“

”

5000-10000

30 “

” Modigliani and Cao 2004 Yang et al. 2011 Curtis et al. 2011 “ ”

Horioka 2010 2011 Cai and Wang 2006 Banister et al. 2010

OLG

1

2

21

2000

2010

2000 65 7%

2010

21 50 50

2000—2050 21 50

2000 60 80

1.3 1362 Medium-fertility

2050 9839 4.4

2000 7.2 3.4 1

60 20 21

Bayesian Hierarchical Model

0.5

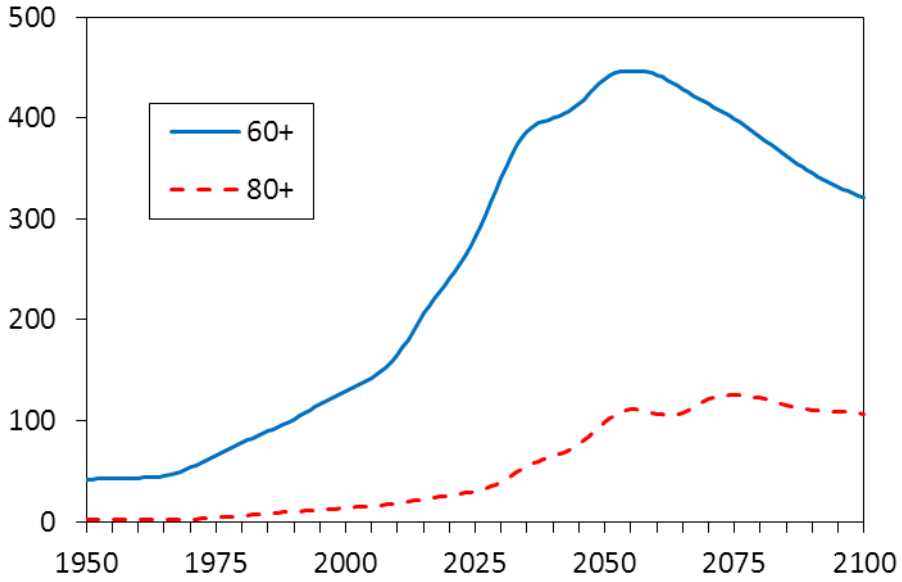
Raftery et al. 2009

50 2056 4.46

80 20

2075 1.25 21

50



1.

2000—2050

60 80

2

20 21

50

60 80

2000 10.22% 1.07% 2050 33.89%

7.59% 2.3 6.1

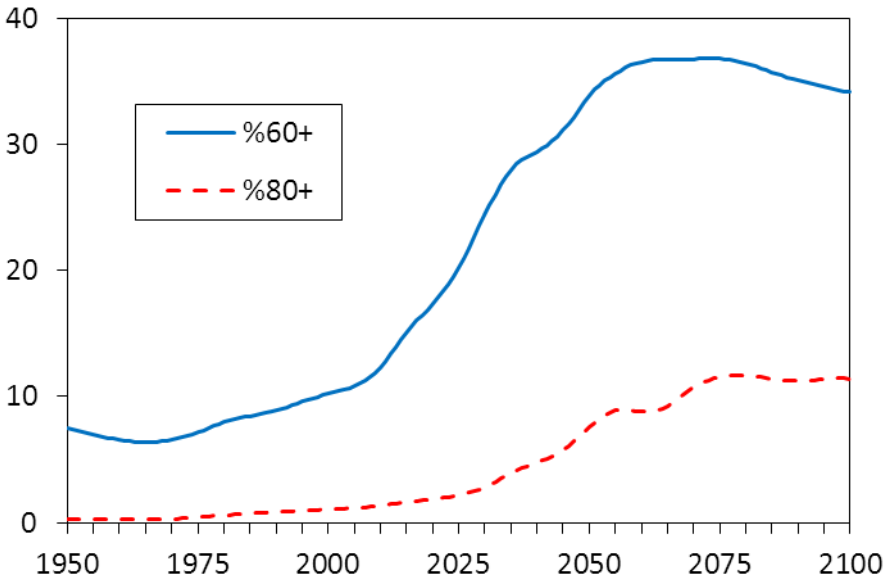
80 20

60 2055

36.5% 80 2077

11.5%

2010



2. **%**

2000—2050

15 65 15-64

100

15 65

3

1950—2100

“ U ” 2014

78 37

37 80

2030 71 25 25

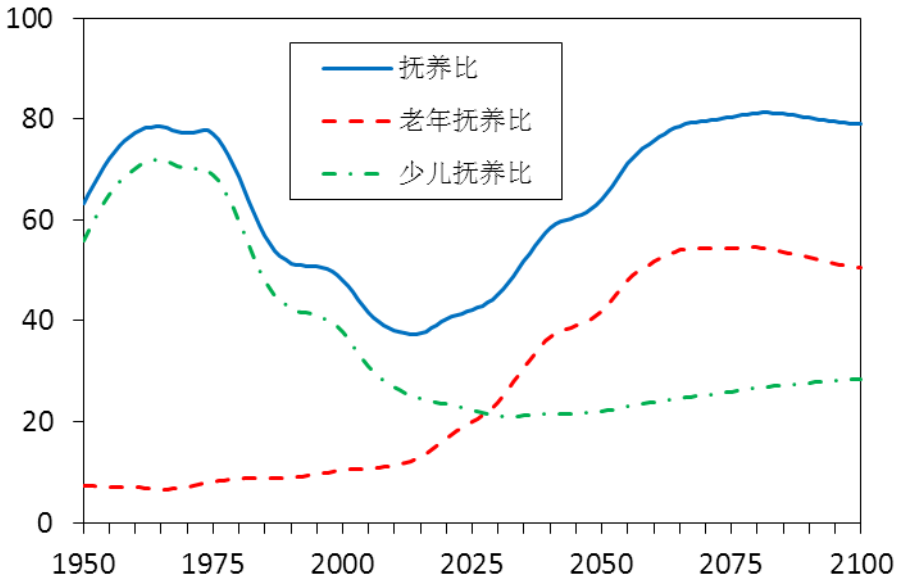
2000 6 10 21

2058 50

---

65 65 65+

“ 65 ” 65 “ 60 ” “ 80 ”



3.

21 21

60 10%—20% 65 7%—14%

1 60 65

26 25

32 28

1.

	10%-20% 60+		7%-14% 65+	
	1999-2025	26	2000-2025	25
	1966-1995	29	1970-1995	25
	1937-2015	78	1944-2014	70
	2021-2053	32	2024-2052	28
	1850-1994	144	1865-1990	125
	1964-2015	51	1967-2016	49
	1950-1993	43	1950-1991	41
	1911-1988	77	1921-1988	67

“ ”

	1890-1971	81	1890-1971	81

1950 2010 1950

2006

“

” “ ”

4

20 70

1970 5.9 1980

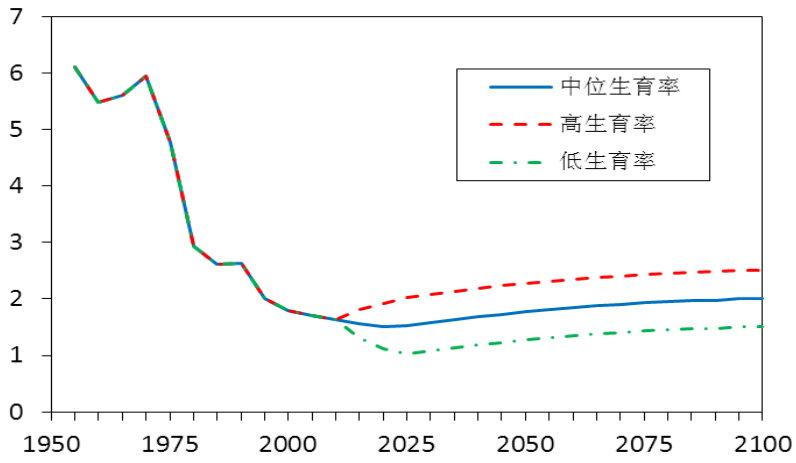
2.9 50%

2000 2

30

4

“ ” 2011



4.

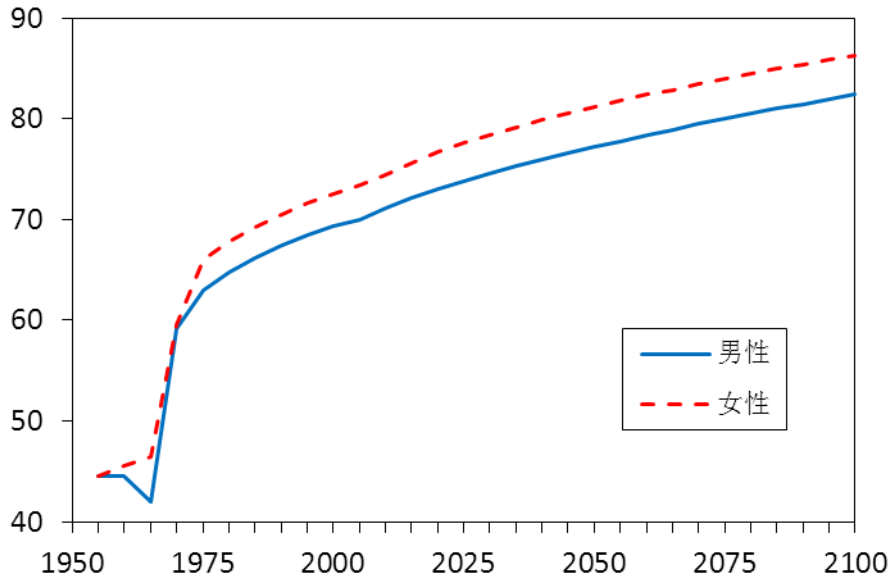
5

1980—2100

71.1 74.5 82.4 86.3 21

“ ”

“ ” 2011



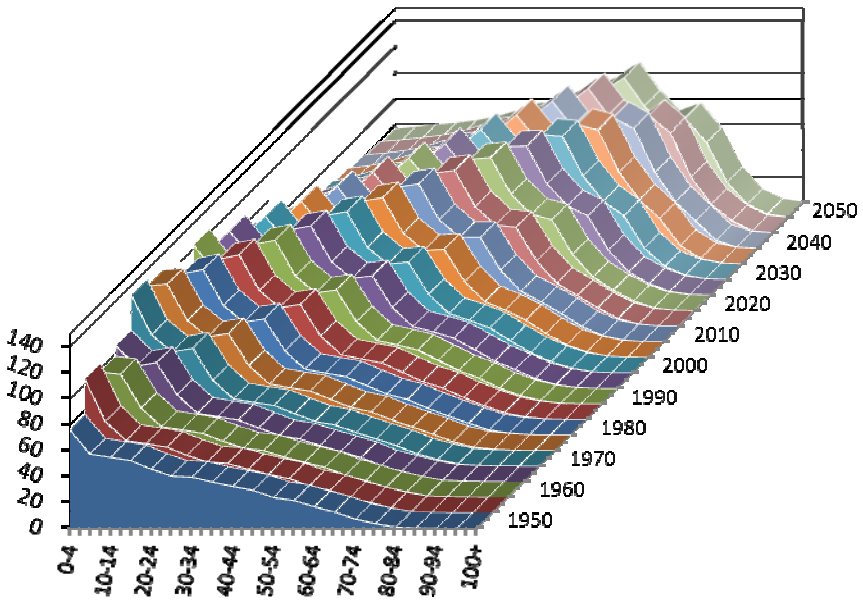
5.

6

6 1950 2100

“ ” “ ”

Banister et al. 2010



6.

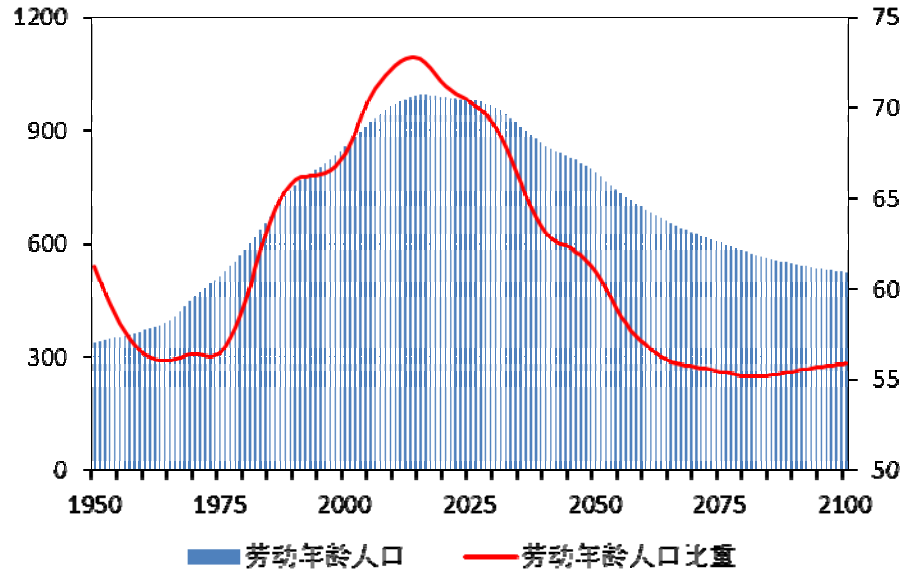
Solow 1956

21

21 50

7 2014 72.8%

60 56%



7. %

70

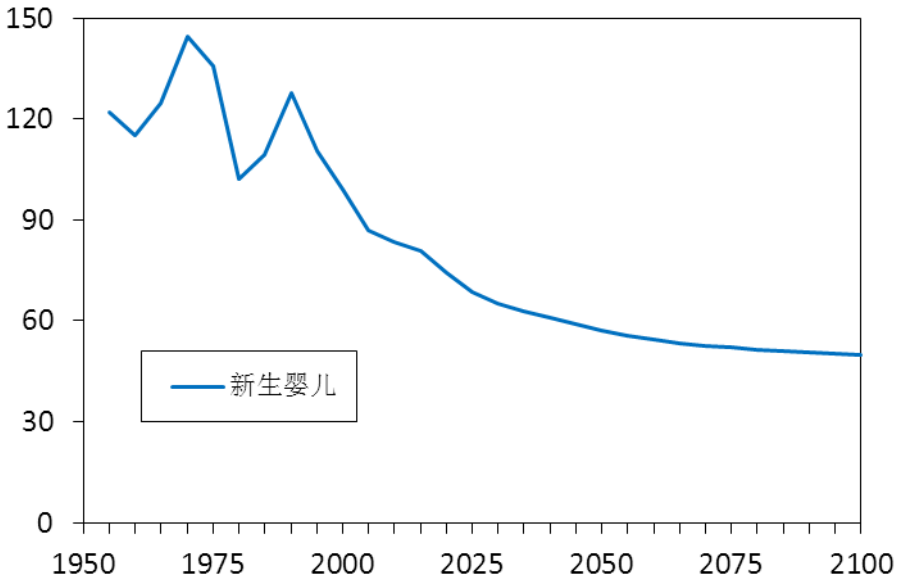
8 2005-2010 8257 1985-1990

4400 2010

5000

7 2016

50

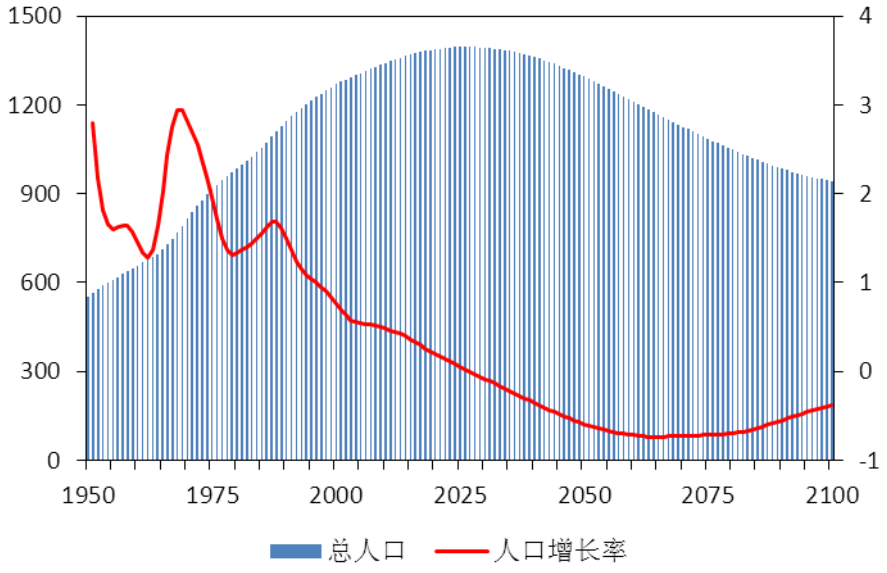


8. **5** /

“ ”

9 2027

2026 13.96



9. **%**

OLG

1 OLG

$$\max_{c_t^y, c_{t+1}^o} \log c_t^y + \beta \log c_{t+1}^o$$

β c^y c^o

$$c_t^y + s_t^y = (1-e_t) h_t^y w_t (1-\tau_t) \quad (1)$$

$$c_{t+1}^o = (1+r_{t+1}) s_t^y + \varpi h_{t+1}^o w_{t+1} (1-\tau_{t+1}) + (1-\varpi) b_{t+1} \quad (2)$$

w_t r_{t+1} t $(t+1)$ ϖ

τ_t

s_t^y

b_{t+1}

$$c_t^y + \frac{c_{t+1}^o}{1+r_{t+1}} = (1-e_t) h_t^y w_t (1-\tau_t) + \frac{1}{1+r_{t+1}} \left[\varpi h_{t+1}^o w_{t+1} (1-\tau_{t+1}) + (1-\varpi) b_{t+1} \right].$$

$$c_{t+1}^o = \beta (1+r_{t+1}) c_t^y \quad (3)$$

e_t

h_t^y h_{t+1}^o

$$h_{t+1}^{o} = (1 + f(e_t))h_t^{y} \qquad 4$$

$f(e_t)$ Inada

$$f(e_t) = \mu e_t^{\varphi}$$

$\mu > 0 \quad 0 < \varphi < 1$

$$h_t^{y} = \lambda h_t^{o}$$

λ $\gamma_t^{h} = h_t^{y} / h_{t-1}^{y}$ $(t-1)$ t

$$e_t = \left[\frac{\varpi \mu \varphi w_{t+1}(1-\tau_{t+1})}{w_t(1-\tau_t)(1+r_{t+1})} \right]^{\frac{1}{1-\varphi}} \qquad 5$$

5

Cobb-Douglas

$$Y_t = K_t^{\alpha} L_t^{1-\alpha}$$

$$1 + r_t = \alpha k_t^{\alpha-1} \qquad 6$$

$$w_t = (1-\alpha)k_t^{\alpha} \qquad 7$$

$k_t = K_t / L_t$

Pay-As-You-Go

$$w_t(1-e_t)h_t^{y}\tau_t N_t^{y} + \varpi w_t h_t^{o}\tau_t N_t^{o} = (1-\varpi)b_t N_t^{o}$$

N_t^y N_t^o t

$$N_{t+1}^o = N_t^y$$

$$b_t = \frac{w_t(1-e_t)h_t^y\tau_t N_t^y + \varpi w_t h_t^o \tau_t N_t^o}{(1-\varpi)N_t^o} = \frac{w_t\tau_t[(1-e_t)h_t^y\gamma_t^N + \varpi h_t^o]}{(1-\varpi)} \quad 8$$

$\gamma_t^N = N_t^y / N_t^o = N_t^y / N_{t-1}^y$ $(t-1)$ t

$$\rho_t = N_t^y / (N_t^y + N_t^o) = \gamma_t^N / (\gamma_t^N + 1)$$

γ_t^N

$$K_{t+1} = s_t^y N_t^y \quad 9$$

$$L_t = (1-e_t)h_t^y N_t^y + \varpi h_t^o N_t^o = N_t^o h_{t-1}^y[(1-e_t)\gamma_t^N\gamma_t^h + \varpi(1+f(e_{t-1}))] \quad 10$$

1 2 3 4

$$s_t^y = \frac{1}{1+\beta}\left\{\beta(1-e_t)h_t^y w_t(1-\tau_t) - \frac{1}{1+r_{t+1}}[\varpi(1+f(e_t))h_t^y w_{t+1}(1-\tau_{t+1}) + (1-\varpi)b_{t+1}]\right\} \quad 11$$

6 7 8 19 11 10

$$k_{t+1} = \frac{\alpha\beta(1-\alpha)(1-\tau_t)(1-e_t)}{[\varpi(1+\alpha\beta)(1+f(e_t)) + ((1-\alpha)\tau_{t+1} + \alpha(1+\beta))(1-e_{t+1})\gamma_{t+1}^h\gamma_{t+1}^N]}k_t \quad 12$$

6 7 5

$$e_t = \left[\frac{\varpi\mu\varphi(1-\tau_{t+1})k_{t+1}}{\alpha(1-\tau_t)k_t^\alpha}\right]^{\frac{1}{1-\varphi}} \quad 13$$

2

OLG

12 13

$$k = \Lambda(e,\tau,\gamma^N)^{\frac{1}{1-\alpha}} \quad 14$$

$$e = \left[\frac{\varpi \mu \varphi}{\alpha} \Lambda(e, \tau, \gamma^N) \right]^{\frac{1}{1-\varphi}} \qquad 15$$

$$\Lambda(e, \tau, \gamma^N) = \frac{\alpha\beta(1-\alpha)(1-\tau)(1-e)}{[\varpi(1+\alpha\beta)(1+ f(e)) + ((1-\alpha)\tau + \alpha(1+\beta))(1-e)\gamma^h \gamma^N]}$$

14 15

$$\frac{\partial k}{\partial \gamma^N} < 0 \qquad \frac{\partial e}{\partial \gamma^N} < 0$$

$K = kL$ L

K

OLG

2000 2006

k L

$E = eL^Y$ L^Y

L

“ ”

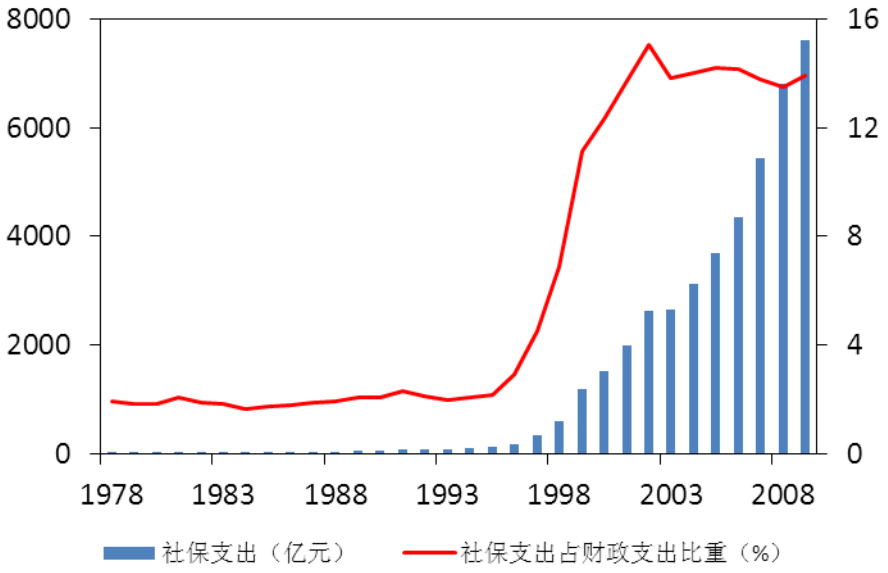
Fougère and Mérette 1999 Van Zon and Muysken 2001 Cerda 2005 Yew and Zhang 2009 2009

8 2000

1998—2009

596 7607 11.8 7%

14% 21 50



10.

OLG

1978

60 55

50 30

67.7 73.8

20

65 60

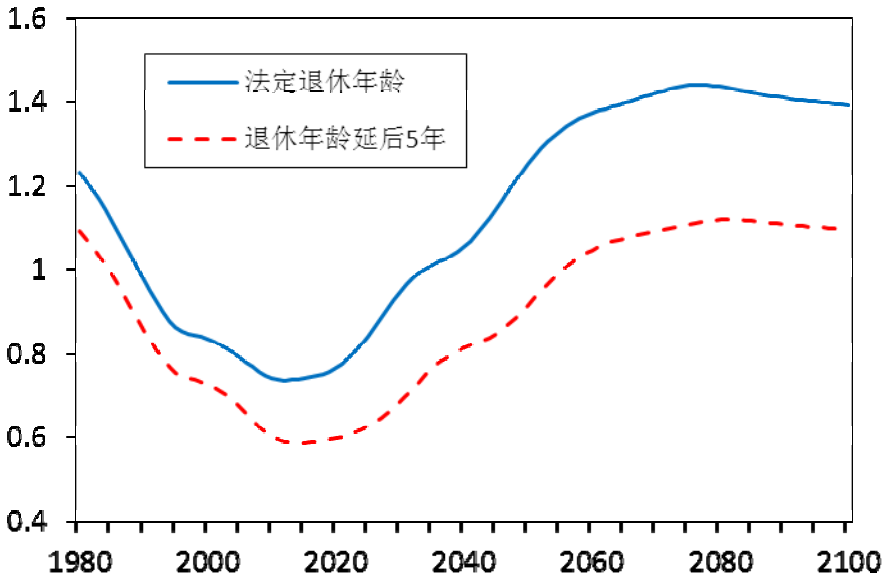
9

2010

0.74 2077 1.44

2010 0.60 2081 1.12

60 70



11.

2011

1978 104

2009 1.5

46% 2010 2

77% 72%

2004 1.2 40 2007

2010 2007 45% 33%

12%

2 19%

12%

2. **%**

	2009	2005			2009		
0-14	19.9	14.8	19.4	22.0	12.6	17.1	18.8
15-64	72.1	76.4	72.4	68.5	77.5	73.7	71.4
60+	11.9	12.3	11.7	13.7	14.5	13.8	14.8
65+	8.0	8.7	8.1	9.6	9.9	9.3	9.8

2009 2010 2005

OLG

3

2009 92.9%

7.10% 99%

15 19 99% Banister et al. 2010

2009 62.83%

71.8%

4

75% 7.43%

3. 2009 **%**

	7.1	30.1	41.7	13.8	7.3
	4.0	28.3	44.3	15.4	8.0
	10.3	32.0	39.0	12.2	6.6

2010

4. 2009 **%**

	4.8	26.3	48.7	12.8	4.7	2.5	0.23
	2.8	23	51.6	14.7	4.9	2.7	0.27
	7.1	30.2	45.3	10.5	4.5	2.3	0.19

2010

“ ”

“ ” “ ”

2007 2
2010 4
1999 10
2006
11
2011
2
2011 3
2006
2009 11

2000
11
2011
34

Banister, J., D. E. Bloom, and L. Rosenberg, 2010, “Population Ageing and Economic Growth in China”, Program on the Global Demography of Aging Working Paper Series, No. 53.

Bloom, D. E., D. Canning, J. Sevilla, 2001, “Economic Growth and the Demographic Transition”, NBER Working Paper Series, No. 8685.

Cai, F., and M. Wang. 2006, “Challenge facing China's Economic Growth in Its Aging but not Affluent Era.” China and World Economy, Vol. 14, No. 5, pp. 20-31.

Cerda, R. A., 2005, “On Social Security Financial Crisis”, Journal of Population Economics, Vol. 18, No. 3, pp. 509-517.

Curtis, C.C., S. Lugauer, and N. C. Mark, 2011, “Demographic Patterns and Household Saving in China”, NBER Working Paper, No. 16828.

Fougère, M., and M. Mérette, 1999, “Population Ageing and Economic Growth in Seven OECD Countries”, Economic Modelling, Vol. 16, No. 3, pp. 411-427.

Horioka, C. Y., 2006, “The Causes of Japan’s Lost Decade: The Role of Household Consumption”, Japan and the World Economy, Vol. 18, pp. 378-400.

Horioka, C. Y., 2010, “Aging and Saving in Asia”, Pacific Economic Review, Vol. 15, Issue 1, pp. 46-55.

Modigliani, F., and S. L. Cao, 2004, “The Chinese saving puzzle and the life-cycle hypothesis”, Journal of Economic Literature, Vol pp.145-170.

Raftery, A. E., L. Alkema, P. Gerland, S. J. Clark, F. Pelletier, T. Buettner, G. Heilig, N. Li, and H. Sevcikova, 2009, “White Paper: Probabilistic Projections of the Total Fertility Rate for All Countries for the 2010 World Population Prospects”, http://esa.un.org/unpd/wpp/Documentation/EGM-RFTF_P16_Raftery.pdf.

Solow, R. M., 1956, “A Contribution to the Theory of Economic Growth”, Quarterly Journal of Economics, Vol. 70, No. 1, pp. 65-94.

United Nations, Department of Economic and Social Affairs, Population Division, 2009, “World Population Ageing 2009”, http://www.un.org/esa/population/publications/WPA2009/WPA2009-report.pdf.

United Nations, Department of Economic and Social Affairs, Population Division, 2010, “World Population Prospects: The 2010 Revision”, http://esa.un.org/unpd/wpp/index.html.

Van Zon, A., and J. Muysken, 2001, “Health and Endogenous Growth”, Journal of Health Economics, Vol. 20, No. 2, pp. 169-185.

Yang, D. T., J. Zhang, and S. Zhou, 2011, “Why are saving rates so high in China?”, NBER Working Paper, No. 16771.

Yew, S. L., and J. Zhang, 2009, “Optimal Social Security in a Dynastic Model with Human Capital Externalities, Fertility and Endogenous Growth”, Journal of Public Economics, Vol. 93, No. 3-4, pp. 605-619.

—CMAFM

CMAFM

China ’s Macroeconomic Analysis and Forecasting Model—CMAFM IS-LM-AS

IS-LM

AS CMAFM

1(a) SNA 1(b) CMAFM

GDP CMAFM

, 1(c) CMAFM 1

NBS

“ International Financial Statistics ” IFS WTO

“ http://www.wto.org/statistics ”

1(a) SNA

1	BFCI			NBS
2	GFCI			NBS
3	GOVC			NBS
4	GOVEX			NBS
5	GOVRE			NBS
6	INV			NBS
7	NEX			NBS
8	NGDP			NBS
9	PRIVC			NBS

10	SM1			IFS
11	SM2			IFS
12	SSDRE			IFS
13	USDE			NBS
14	WME			WTO
15	WMI			WTO
16	WSE			WTO
17	WSI			WTO
18	Y		1978 = 100	NBS

1(b) CMAFM

1	FCI		$FCI_t = GFCI_t - BFCI_t$
2	G		$G_t = GOVC_t + BFCI_t$
3	GTX		$GTX_t = GOVRE_t - (GOVEX_t - G_t)$
4	PDY		$PDY_t = GDP_t - GTX_t$
5	SDRE		$SDRE_t = (SSDRE_t + SSDRE_{t-1})/2$
6	WT		$WT_t = (WME_t + WMI_t + WSE_t + WSI_t)/100$
7	M1		$M1_t = ((SM1_t + SM1_{t-1})/2) \cdot 10$
8	M2		$M2_t = ((SM2_t + SM2_{t-1})/2) \cdot 10$

1(c) CMAFM

1	P		$P_t = (NGDP_t/Y_t)/(NGDP_{1981}/Y_{1981})$	1981 = 1.00
2	INFL		$INFL_t = (P_t/P_{t-1} - 1) \cdot 100$	%
3	YR		$YR_t = NGDP_t/P_t$	1981
4	PDYR		$PDYR_t = PDY_t/P_t$	1981
5	GTXR		$GTXR_t = GTX_t/P_t$	1981
6	PRIVCR		$PRIVCR_t = PRIVC_t/P_t$	1981

7	FCIR		$FCIR_t = FCI_t/P_t$	1981
8	INVR		$INVR_t = INV_t/P_t$	1981
9	NEXR		$NEXR_t = NEX_t/P_t$	1981
10	GR		$GR_t = G_t/P_t$	1981
11	M1R	M1	$M1R_t = M1_t/P_t$	1981
12	M2R	M2	$M2R_t = M2_t/P_t$	1981
13	R3		$R3_t = \Sigma\{(R_{ti} \cdot \Delta t_{ti})/\Sigma(\Delta t_{ti})\}$	%

CMAFM

OLS 1981-2010 CMAFM 2011

T 1981 T = 1 2010 T = 30

DUM 1988 1994 DUM = 1

DUM = 0

1

$$PDYR_t = YR_t - GTXR_t$$

2

$$logPRIVCR_t = 0.544863 + 0.518480 \cdot logPRIVCR_{t-1} + 0.398955 \cdot logPDYR_t$$
$$(4.547775)\ (4.396416) \qquad (3987010)$$
$$+ [MA(1) = 0.567104]$$
$$(3.072457)$$

$R^2 = 0.999081$ adj $R^2 = 0.998975$ SE = 0.023080 DW = 1.811843

3

$$logFCIR_t = -3.101784 - 0.006635 \cdot (R3_t - INFL_t) + 1.205078 \cdot logYR_{t-1}$$
$$(-11.22306)(-3.595096) \qquad (43.36692)$$
$$+ [MA(1) = 1.227950\ \ MA(2) = 0.235609]$$
$$(409.9068) \qquad (1.921974)$$

$R^2 = 0.997953$ adj $R^2 = 0.997626$ SE = 0.050528 DW = 1.888332

4

$$INVR_t/YR_t = 0.091070 + 0.866837 \cdot (INVR_{t-1}/YR_{t-1}) - 0.85419 \cdot DUM \cdot (INVR_{t-2}/YR_{t-2})$$
$$(4.936805)\ (10.96565)\qquad (-4.745440)$$
$$- 0.002345 \cdot (R3_t - INFL_t) + 0.003222 \cdot DUM \cdot (R3_t - INFL_t) - 0.008245 \cdot \log YR_t$$
$$(-6.102240)\qquad (5.933692)\qquad (-5.229284)$$
$$+ 0.006871 \cdot DUM \cdot \log YR_{t-1} + [MA(1) = - 0.934982]$$
$$(4.309259)\qquad (-11.09233)$$
$$R^2 = 0.917829\quad adj\ R^2 = 0.891984\quad SE = 0.008756\quad DW = 2.004016$$

5

$$NEXR_t/YR_t = - 0.871202 + 0.490560 \cdot \Delta(NEXR_{t-1}/YR_{t-1}) - 0.222879 \cdot \Delta \log YR_t$$
$$(-6.628577)\ (4.424622)\qquad (-2.788683)$$
$$- 0.071994 \cdot \log YR_{t-1} - 0.131861 \cdot \log(SDRE_t/P_t) + 0.141218 \cdot \log(WT_t \cdot USDE_t/P_t)$$
$$(-3.748605)\qquad (-6.203498)\qquad (5.193592)$$
$$R^2 = 0.893110\quad adj\ R^2 = 0.870841\quad SE = 0.010442\quad DW = 2.093231$$

6

$$YR_t = PRIVCR_t + FCIR_t + INVR_t + NEXR_t + GR_t$$

7

$$R3_t - INFL_t = 3.490945 - 0.878294 \cdot \Delta INFL_t - 0.642412 \cdot INFL_{t-1} + 0.145358 \cdot INFL_{t-2}$$
$$(5.922416)(-18.61669)\qquad (-9.119648)\qquad (2.728386)$$
$$- 3.554025 \cdot \log(M2R_t/YR_t) + [MA(1) = 0.878709\quad MA(2) = 0.373702]$$
$$(-4.095526)\qquad (6.742820)\qquad (2.363363)$$
$$R^2 = 0.953801\quad adj\ R^2 = 0.941750\quad SE = 0.933644\quad DW = 1.993795$$

8

$$\Delta INFL_t = - 3.138770 - 0.554348 \cdot DUM \cdot INFL_{t-1} - 0.484700 \cdot INFL_{t-2} + 50.71158 \cdot \Delta \log YR_t$$
$$(-3.019363)(-2.901378)\qquad (-11.42152)\qquad (4.591716)$$
$$+ 54.39335 \cdot DUM \cdot \Delta \log YR_{t-1} + [MA(1) = - 0.966402]$$
$$(11.68839)\qquad (-24.72524)$$
$$R^2 = 0.819313\quad adj\ R^2 = 0.781670\quad SE = 1.935943\quad DW = 2.293635$$

9

$$GTXR_t/PDYR_t = 0.241032 - 0.010969 \cdot DUM - 0.008492 \cdot T + 0.000206 \cdot T^2$$
$$(16.57380)(-3.117679)\qquad (-5.645057)\qquad (4.496345)$$

$$+ 0.181747 \cdot \Delta \log YR_t + [MA(1) = 0.989870]$$
$$(1.917668) \qquad (49168.21)$$
$$R^2 = 0.926933 \quad adj\ R^2 = 0.911711 \quad SE = 0.008325 \quad DW = 1.97135$$

10

$$\log(M2R_t/YR_t) = 0.027580 + 0.971921 \cdot \log(M2R_{t-1}/YR_{t-1}) + 0.631081 \cdot \Delta \log(M1R_t/YR_t)$$
$$(3.563824) \quad (69.10753) \qquad (6.904695)$$
$$+ [MA(1) = 0.748068]$$
$$(6.279505)$$
$$R^2 = 0.998200 \quad adj\ R^2 = 0.997992 \quad SE = 0.021398 \quad DW = 2.131475$$

CMAFM ARMA 2 IS LM AS C

2 CMAFM

IS	[1] $PDYR_t = YR_t - GTXR_t$
	[2] $\log PRIVCR_t = C_{10} + C_{11} \cdot \log PRIVCR_{t-1} + C_{12} \cdot \log PDYR_t$
	[3] $\log FCIR_t = - C_{20} - C_{21} \cdot (R3_t - INFL_t) + C_{22} \cdot \log YR_{t-1}$
	[4] $INVR_t/YR_t = C_{30} + C_{31} \cdot (INVR_{t-1}/YR_{t-1}) - C_{32} \cdot DUM \cdot (INVR_{t-2}/YR_{t-2}) - C_{33} \cdot (R3_t - INFL_t) + C_{34} \cdot DUM \cdot (R3_t - INFL_t) - C_{35} \cdot \log YR_t + C_{36} \cdot DUM \cdot \log YR_{t-1}$
	[5] $NEXR_t/YR_t = - C_{40} + C_{41} \cdot \Delta(NEXR_{t-1}/YR_{t-1}) - C_{42} \cdot \Delta \log YR_t - C_{43} \cdot \ln YR_{t-1} - C_{44} \cdot \log(SDRE_t/P_t) + C_{45} \cdot \log(WT_t \cdot USDE_t/P_t)$
	[6] $YR_t = PRIVCR_t + FCIR_t + INVR_t + NEXR_t + GR_t$
LM	[7] $R3_t - INFL_t = C_{50} - C_{51} \cdot \Delta INFL_t - C_{52} \cdot INFL_{t-1} + C_{53} \cdot INFL_{t-2} - C_{54} \cdot \log(M2R_t/YR_t)$
AS	[8] $\Delta INFL_t = - C_{60} - C_{61} \cdot DUM \cdot INFL_{t-1} - C_{62} \cdot INFL_{t-2} + C_{63} \cdot \Delta \log YR_t + C_{64} \cdot DUM \cdot \Delta \log YR_{t-1}$
	[9] $GTXR_t/PDYR_t = C_{70} - C_{71} \cdot DUM - C_{72} \cdot T + C_{73} \cdot T^2 + C_{74} \cdot \Delta \log YR_t$
	[10] $\log(M2R_t/YR_t) = C_{80} + C_{81} \cdot \log(M2R_{t-1}/YR_{t-1}) + C_{82} \cdot \Delta \log(M1R_t/YR_t)$

CMAFM

2 CMAFM 1981-2010

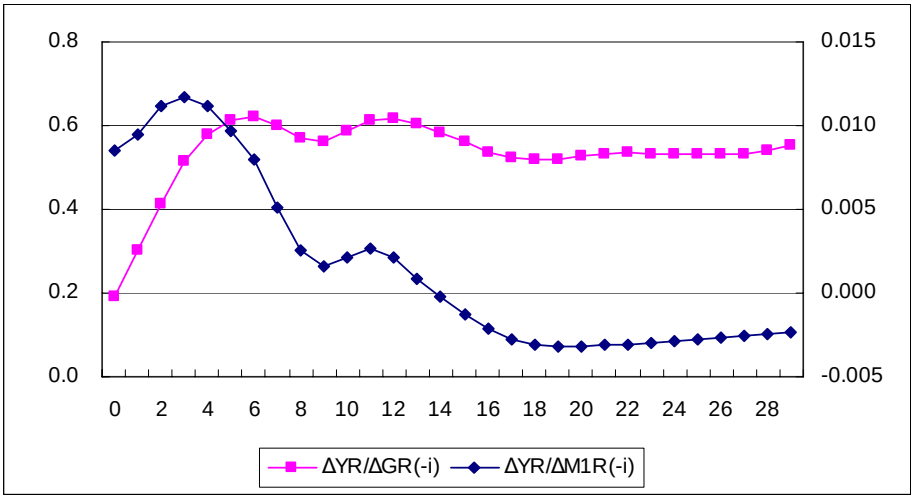
3

CMAFM 30

— 1

3 CMAFM

	%	%		
logYR	0.009762	0.195148		
logPRIVCR	0.004514	0.295050		
logFCIR	0.030861	0.574434		
INVR			10.28631	224.4318
NEXR			-9.875589	253.4211
INFL			0.136365	1.731560
R3			0.016952	0.780669
logYR	0.019564	0.361025		
logPRIVCR	0.003586	0.555842		
logFCIR	0.124314	1.147279		
INVR			14.85242	336.8913
NEXR			-2.056330	322.7524
INFL			0.080402	3.373864
R3			0.124906	1.519384



1

$\Delta YR_t / \Delta GR_{t-i}$ $\Delta YR_t / \Delta M1R_{t-i}$

over-shooting

1 Δ

$\log YR_t / \Delta \log GR_{t-i}$ $\Delta \log YR_t / \Delta \log M1R_{t-i}$

2011-2012

2011 年，中国经济继续复苏，在保持快速增长的同时成功消除通货膨胀长期化趋势。2012 年，中国经济应该继续实行积极的财政政策和稳健的货币政策，通过适应性的需求管理,促进总体经济景气的完全正常化而最终实现从萧条到繁荣的经济周期形态转换。在未来相当长时期，中国经济仍然具有在价格稳定条件下快速增长的潜在能力。中国宏观经济管理应该采取乐观经济增长预期与积极需求管理模式相配合的政策原则,并且与高储蓄-高投资-高增长的经济发展模式相一致，形成以国内投资需求管理为轴心的财政政策和货币政策框架。

1978-2010 1

1991-2001 — 2002-2007

2007

2008 2009

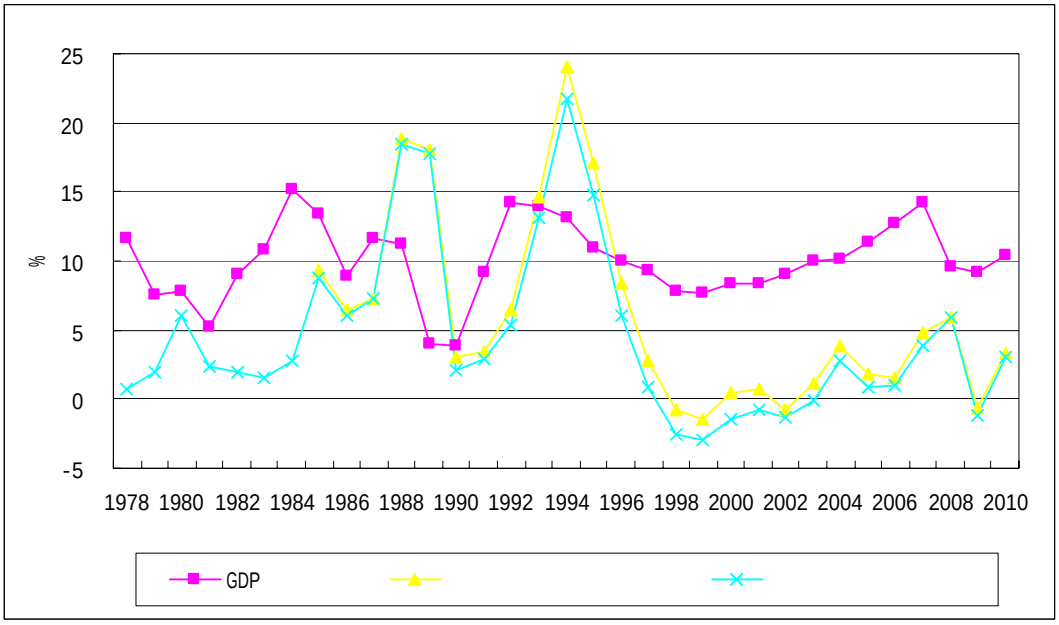
2008

GDP 2008

2009 2010

2009 2002-2009

— 2010



1

2011

CPI

GDP 2010 GDP 1980 GDP

2011 GDP GDP

2012

—CMAFM

2011 2012 1

1 2012 8700 2

2012 6.14:1

1

			2011	2012
1	GDP	%	9.42	9.35
			4.4	4.3
			10.8	10.6
			9.1	9.1
2			347930	425520
			183850	214360
3			18890	22170
			17240	20680
4	M1	%	13.7	16.2
	M2	%	15.5	17.1
5	CPI	%	5.4	3.3
GDP		%	6.1	4.6

2011 11

AK

$$Y_t = \prod_{i=1}^{k} \{(Y_{t-i} \cdot (1 + \delta)^i)^{w(i)}\}$$

$k = 5$ $w(i) = q^i$ $w(i) = \cos((i-1) \cdot (\pi/2k))$ OLS 1978-2010 GDP

$$\ln Y_t = \sum_{i=1}^{k} \{w(i) \cdot (\ln Y_{t-i} + i \cdot \ln(1$$

+ δ))} 2 GDP

δ = 10.2144% δ = 10.1826%

2

$\ln Y_t = \sum_{i=1}^{5} \{w(i) \cdot (\ln Y_{t-i} + i \cdot \ln(1 + \delta))\}$

w(i)	q^i	$\cos((i-1) \cdot (\pi / 2k))$
δ	0.102144 (26.98665)	0.101826 (29.80807)
R^2	0.998133	0.997198
SE	0.033780	0.041385

2 1983-2012 GDP

1983-2012 GDP 1983-2009 GDP

2011 2012 GDP 1983-2012

2

1 tp1 $d(\Delta \ln Y)/dt = 0$ 2

tp2 $d(\ln(Y/Y^*))/dt = 0$ 3 tp3 $\ln(Y/Y^*) = 0$

3 GDP 2009

tp1 2009

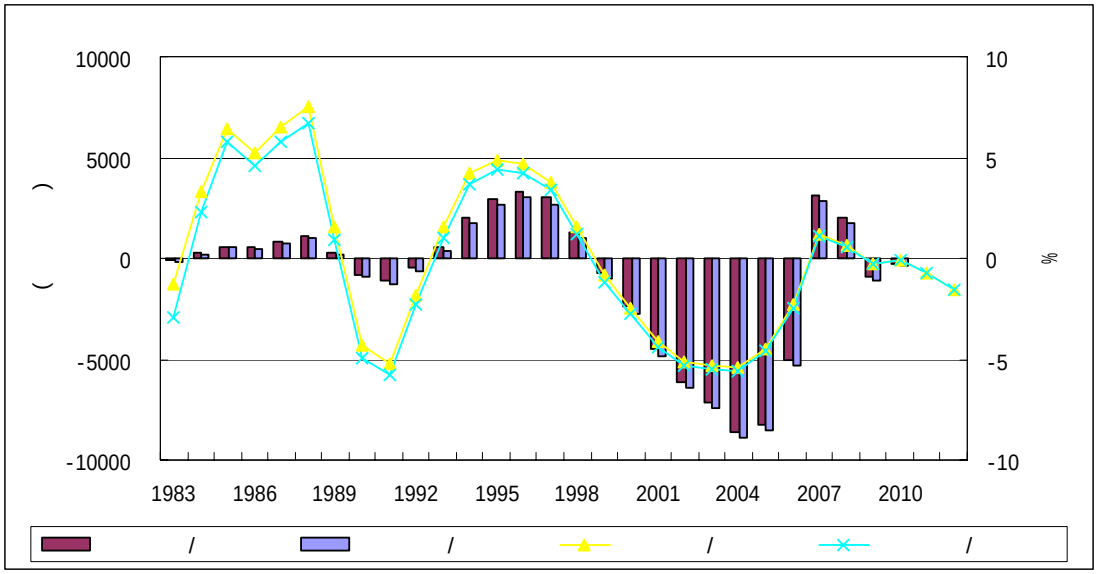
2009 2009

tp2 2010

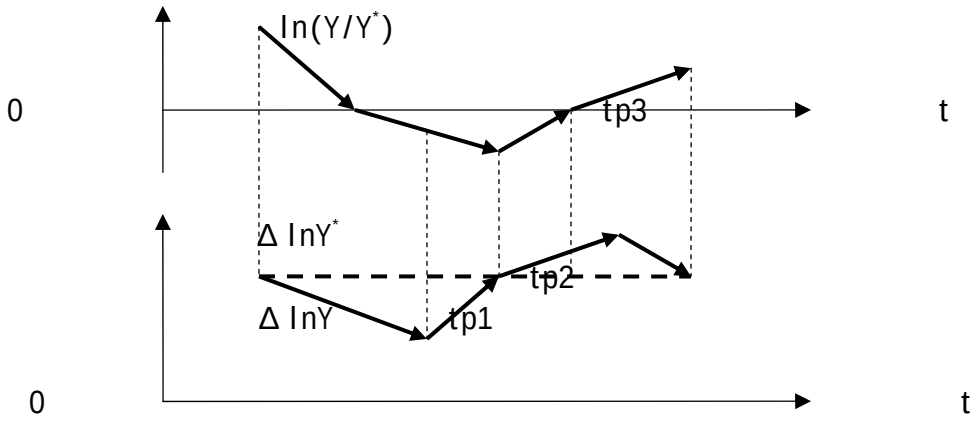
tp2

tp3 2010

tp1 tp2



2



3

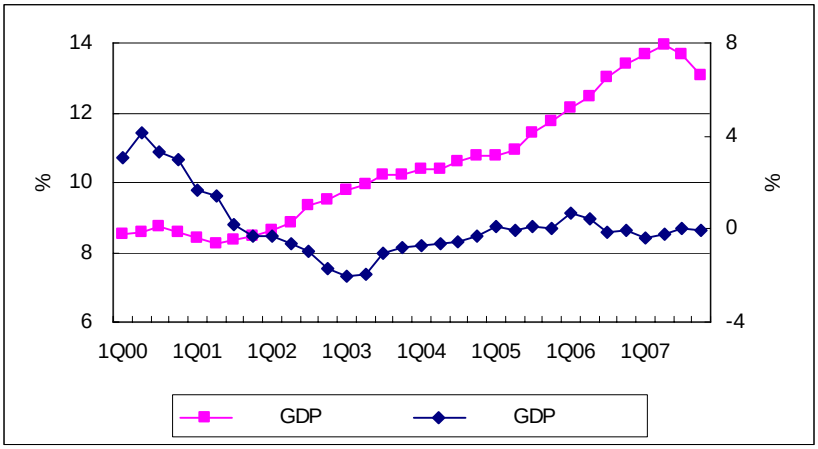
2

—

1985-2005

4 2005

2006-2007



4 GDP GDP

Y = C + I + (X - M) C = C(Y)

0 c 1 I = $\bar{i}$ + u X = $\bar{x}$ + v

M = M(Y) 0 m 1 u v

σ_u^2 σ_v^2 cov(X - M, Y)

= ((1 - c) · σ_v^2 - m · σ_u^2)/(1 - c + m)^2 σ_u^2 0 σ_v^2 = 0 cov(X - M,

Y) 0 σ_u^2 = 0 σ_v^2 0 cov(X - M, Y) 0

nx y

ρ (nx,y) ρ (nx, y) 0

ρ (nx, y) 0

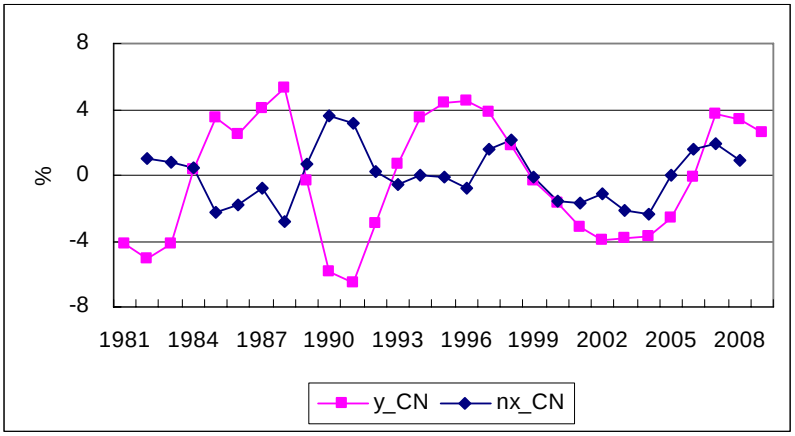
5 1981-2009 GDP y_CN nx_CN

5(a) 1990

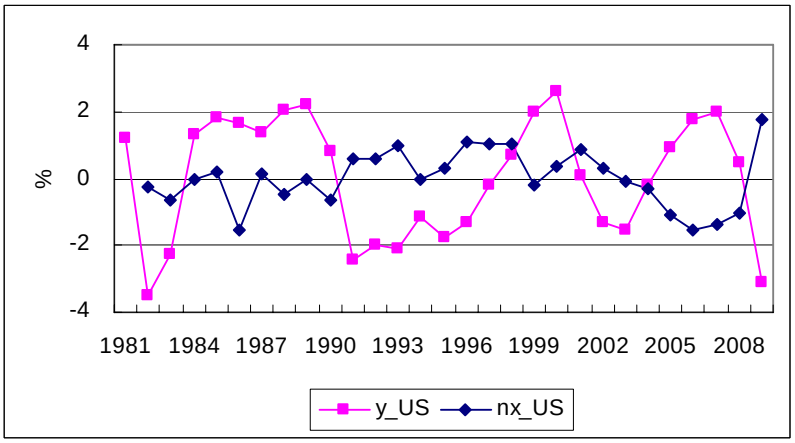
1990

5(b) 1980

1990



5(a) **GDP**

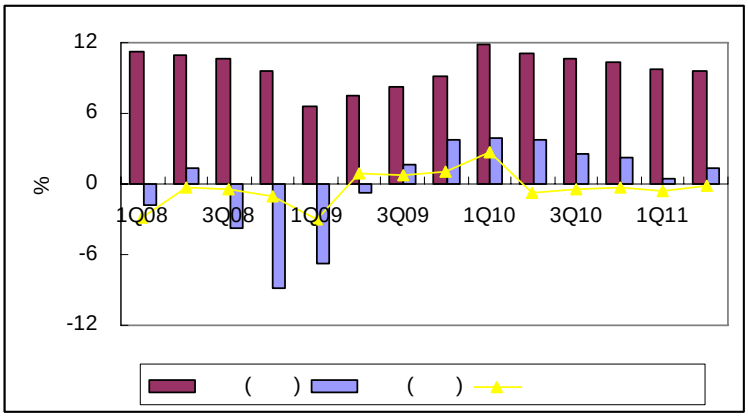


5(b) **GDP**

GDP

GDP 6 2009

2010



6 GDP

1980

1990

1990

CPI PPI RWFPPI

1991-2010 $\pi^{CPI} = 0.449243 \cdot \pi^{PPI} - 0.315271 \cdot (T - 11) + 6.304901$ $\pi^{PPI} = 0.800693 \cdot \pi^{RWFPPI} - 0.070508 \cdot (T - 11) + 0.060447$ 1981 T = 1 2010 T =29 1990

CPI PPI RWFPPI

CPI PPI

PPI GDP CPI

CPI

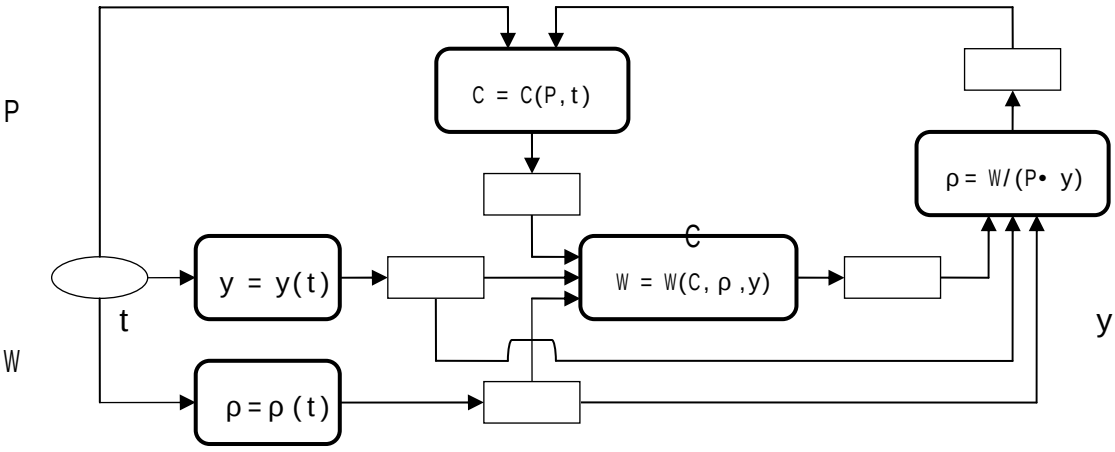
W = W(C, ρ ,y) C =

C(P,t) ρ=W/(P• y)

7 y=y(t)

ρ =ρ(t) W P C

W=W(C,ρ,y) C=C(P,t) lnW=k_1• lnC + k_2• lnρ + k_3• lny lnC=l_1• lnP + l_2• t π=(((k_2 − 1)• gρ + (k_3 − 1)• gy + k_1l_2)/(1 - k_1l_1)) (k_2 − 1)• gρ + (k_3 − 1)• gy + k_1l_2 = 0



ρ

7

GDP

5

GDP 1

1.960% 2 1.917% 3 1.885% 4 1.966% 5 2.208%

ULC

S/Y

$= s \cdot (\eta + \delta - r)$

s

η δ r $(\eta + \delta - r)$

1

$(\delta - r) \square 0$

$Y = \varphi$

$(t) \cdot K$ AK $y^* = L[y]$

$y - L[y] = \lambda \cdot (\pi - L[\pi])$ $y = L[y]$

$V = \theta \cdot (y - y^T)^2 + (\pi - \pi^T)^2$

y^T

$V = -\theta \cdot y + (\pi - \pi^T)^2$

HSGR

(fine-tapping)

- - $s \cdot (\eta + \delta - r)$

1950

2000

“ rich enough to convergence ”

GDP 9.5% 2011-2020 GDP 8.5% 2021-2030 GDP 7.5% 2011 GDP 2020 GDP 2025 GDP

$D_t = (1 + R_t) \cdot D_{t-1} + B_t$

$d_t = D_t / Y_t$ $b_t = B_t / Y_t$

G_t R_t $d_t = ((1 + R_t)/(1 + G_t)) \cdot d_{t-1} + b_t$ R_t G_t d_t $t \to \infty$ $(R_t, G_t, b_t) \to (R^*, G^*, B^*)$ $d^* = ((1 + G^*)/(G^* - R^*)) \cdot b^*$

$sgn(\partial d^* \quad \partial (b^* \quad R^* \quad G^*)) = (+, +, -)$ 3

2010 GDP $\pi^T = 2\%$

$b^* \leq 3\%$ $d^* \leq 60\%$

3

$R = \underline{R} + \kappa \cdot \max\{0,$

π - R′} G = +π π ≤ R′ κ = ∂d* ∂π

0 π ≥ R′ κ ≠0 κ 1/ 1 + ∂d* ∂π 0 κ 1/

1 + ∂d* ∂π 0 κ

1

3

	b^*				$\sup(d^*)$		
	d^* = 2%	d^* = 3%	d^* = 4%	d^* = 5%	$b^* \le$ 60%	$b^* \le$ 100%	$b^* \le$ 150%
$G^* = g_{2010} + \pi^T$	30.38	45.57	60.76	75.95	3.95	6.58	9.88
$G^* = 0.75 \cdot g_{2010} + \pi^T$	45.75	68.63	91.50	114.38	2.62	4.37	6.56
$G^* = 0.50 \cdot g_{2010} + \pi^T$	97.45	146.18	194.91	243.64	1.23	2.05	3.08
g_{2010} = 10.4% π^T = 2.0% $R^* = R_{2011}$ = 5.0%							

2010

2009 WDI Y PPP

Y^{PPP} PPP $Y_t/Y_t^{PPP} = C_0 + \alpha \cdot \ln Y_t$

$+ \beta / \ln Y_t$ Y/Y^{PPP} = 0.547529

Y/Y^{PPP} 2010

PPP

PPP 2010-2015 13.74%

2.17% PPP 2011-2015

$\pi^f = 2\%$

$\pi^T = 2\%$ gE = - 2%

$2\% (= - gE - \pi^f + \pi^T)$