

THE
HAMILTON
PROJECT

해밀턴 프로젝트



기회와 번영, 성장을 위한 경제전략

브루킹스연구소

로저 알트만

피터 오스잭

제이슨 보도프

로버트 루빈



KDI 경제정보센터

THE
HAMILTON
PROJECT

해밀턴 프로젝트

THE HAMILTON PROJECT : An Economic Strategy to Advance
Opportunity, Prosperity, and Growth

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KDI

KDI

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해밀턴 프로젝트

,

"☺" <...



4 5

가 「

」

,

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,

,

.

가

가

.

(主義)

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‘

(supply-side economics)’

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가

가

.,

1970

가

,
(broad-based)

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가

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가

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‘ 가 ,

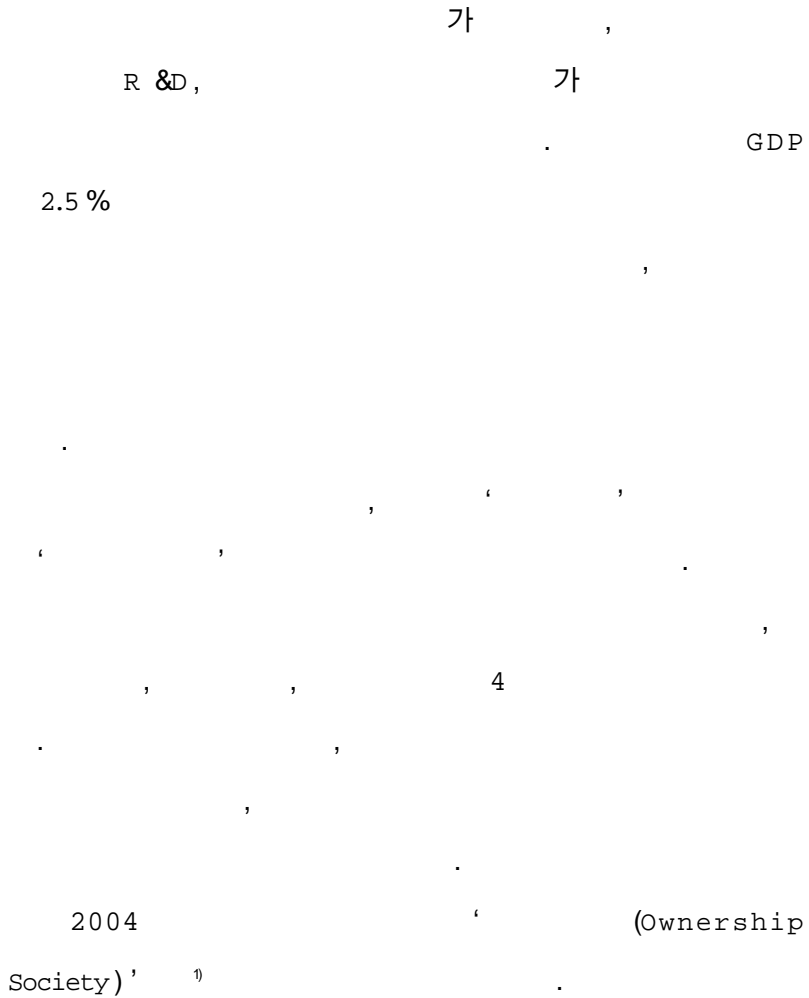
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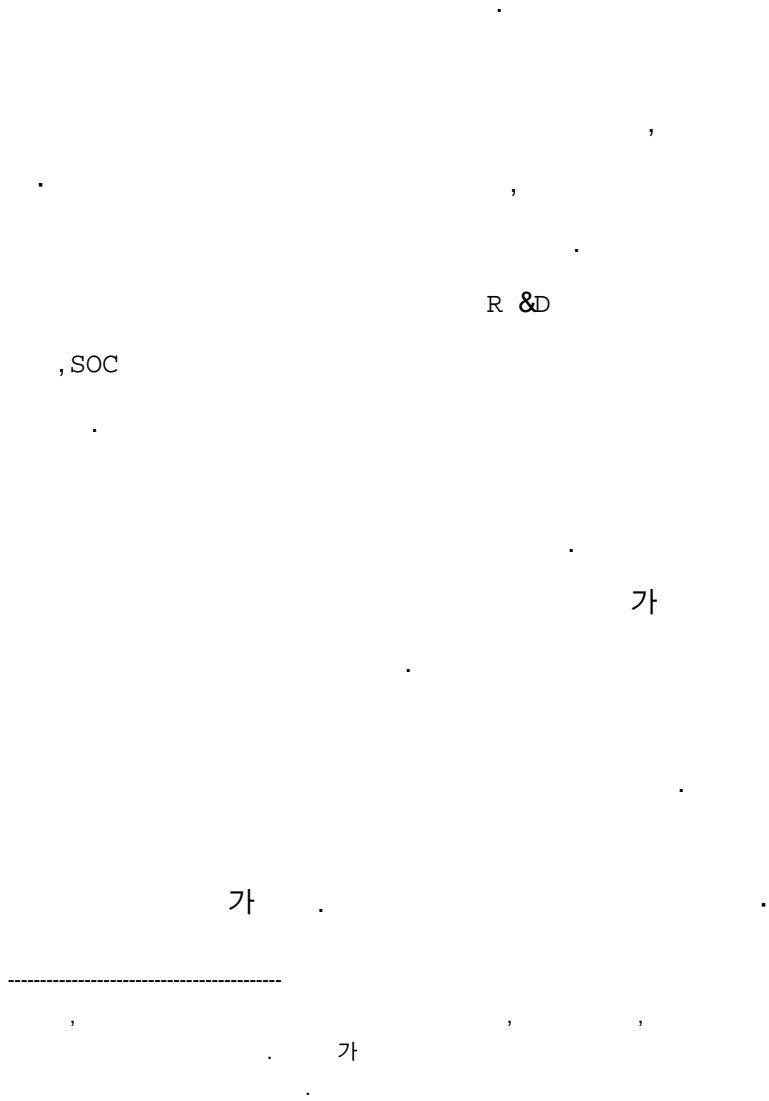
,

.

.



1) ' 가 2 가



가

가

가

2)

가

(economic security)

2)

,²⁾

2), 2006.1

가 .
가 .
‘ 21 ’ . 가 .
가 . ,
,
,
가 .
가 .
,
가 가 . ,
가 .
가 가 .
,
가 가 .
가 가 .
가 가 .

R &D

가

가

가

가

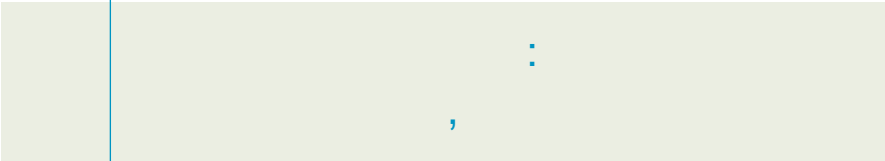
가

가

2006 7



5



< > 17

. 가 22

. 28

. 35

1. 35

2. 38

3. 43

4. 45

. 48

.		51
1.		51
2.	53	
3.	3	55
4.	4	57
.	68	
1.		68
2.		76

THE HAMILTON PROJECT: An Economic Strategy to
Advance
Opportunity, Prosperity, and Growth

THE
HAMILTON
PROJECT



(Alexander Hamilton)

가

.가



가

.

,

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가

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,

,

.

,

가

.



가

가

가

가

가

가

가

가 가

(broad-based) 가 :

가 .

, 가

가가 :

(가)

가가 , 가

,

:

가

200

가

가

가

가

(思考)

5%

GDP 20% .

,

.

가

(, , , ,) .

.

,

가 .

.

(

) .2005

3 ,GDP 2.5%

, 10 5 ,GDP 3% .

가

(medicare) 가 ,

가 .

가

.

가 . 가

, (가)

.
. .
X-
가 .
가 ,
가
.
가
,
.
,
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,
. .

10
가

가

가

(medicaid)

가

.가

가 .

,

,

가
가

,

가

가

‘

’

가

가

‘

가

가

가

가

· ,)

(가

70 %

()

가 가

1

가

가 . ,
 .
 (myth)가 .
 ,
 .
 . 1970
 .
 .
 , 가
 . 1947 ~73 , 가
 2.8% 가 . 1973 , 2.7% 가
 가 1.0% . 1973 ~2003
 1 GDP 73 %
 13% . , 가
 가 .
 가
 , ,가 가
 . 가
 가 . ,

.
 .
 가 -
 ,가 -
 .
 ,
 가 .
 ,
 가
 ,
 가 ,
 , 가 가 가
 가 가 가 .
 , 가
 가 (前)
 “ ... 가,
 가” .
 .
 .
 .

“ 가 가 , 가

가 .

가

가 .

가

. , 가 가

,

.”

2

.

.

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가

,

. 가 ,

. ,

- ,

가 -

, 가 .

가

,

大

“

가가

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가

가

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가

가

가

가

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가 가

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가 - ,

가 가-

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3

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가 - ,

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가

' blue sky ' -

가

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 가 가
 , 가
 . 가
 , 가
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 가 가
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 , 가
 ,
 가 가가
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가
,
,
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-
-
1
(OMB)
13
,
,
,
가
48
가
가
가
가

가 .

가

. ,

-

- 7% 10%

,

.

. , 2003 15

21

. 1%

.가

.1970

75%가

56%

, 42%

.

‘ , , , , ,

.

,

가

가

가

가

가

가

가

가

가,

5

가

6

(Summer Opportunity Scholarships: SOS)

가

2

· (National Academies) ,“
· ”
· 가
·
· IMD 』 1
· 1
· , 가 50
38 , 가
·
·
· 가
· ,
· 가

2010

. , R &D 20 %
30 % .
, R &D 가
, 가
, 가
가 .
-
- .
가 . 가
가 ,
. 1990 1/3
- 가
, 7 5
e- -
, ,

(National Science Foundation)

가
10 가

가

2003 “ ”

R &D 가

가 가 (Defense Advance

3) : 1958 (ARPA) 가 .2000 240 , 20

Research Project Agency: DARPA)³

가
R &D
가
가
가
X-Prize⁴
가
가
가

4) : X-Prize , 1996
1,000 ' Ansari X-Prize '
2005 2 3 1 100km
가 27

가

가

가

‘ , ’

DARPA

가

가

가

75%가

15

1% 가

35% 가

110

가

3

가 . ()

.
가

가 . , 가

2 가 20 % 1970

12 % 25 % 2 가

가

가 가

.
가

12,000

.
,
가

가

가

가

(401(k) plan) 가

가 (retirement
saving plan) 가

4

3

(GAO)

가 1950

가

가

1/3

(USPS)

가

가

가

“

가

가?

가

가?...

가? 가

가?”

, 가

가

5
(return-free tax filing)⁵⁾

5) : 가

가

■

‘ , ’

, 가

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가

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가

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가

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THE
HAMILTON
PROJECT



1

前

4

5

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·

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가

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1970

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가가

, 가가

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·

가

(In matters of industry, human enterprise ought doubtless to be left free in the main, not fettered by too much regulation, but practical politician know that it may be beneficially stimulated by prudent aids and encouragements on the part of the government)

- ,

,

11 美

()'

'

,

,

,

가

,

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2

가

가 (' ')

- 2005 3 (GDP 2.5%),

10 5 (GDP 3%)

가 2015

가

- ()

가

- , , ,

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, ,

- .

* 가

* , X-

.

-

-

- . ,

,

3 3

가.

가

(Broad-based economic growth is no longer and more sustainable)

1970

- (Prosperity has neither
trick led down nor rippled outward).

1947~73 가 28% 가
, 1973 27% 가 가
1% 가 .

-

‘ 가 ’

-

- 1979 ~2002 1% 111% 가
20% 15% 가 .

(Economic security and economic growth can be mutually reinforcing)

가

가

가

가

가

(Effective government can enhance economic growth)

가

- , 가

4 4

(), ,

(), ' 4

가. ()

가 ,

가 .

:

, 2 ,

- : 15 (PISA)

(29 21)

- 15 1 , 3 , 2 ,
4

- 5 % 3 , 3 , 7 ,
2

- 25% 가 1970 56% 2003
42%

1998 ,8 25% 가

25% 70%가 , 25%

가 25% 29%

1

) ' 가 (Tenure) '

- ,

1 가

(cost-effective)

25 %

25 %

10 % 가

- , 2

가

(Kane and Staiger, 2005),

2 3

- 가 가

가

가 , 2

가 - 25%

가 75% 1.5

(, 3 ,

4.5)

2

(Summer Opportunity Scholarship: SOS)

- 가

- 가

- ~5

(6)

가 50%

“ () 가

가

- IMD 1 , 1 ,
 1 , 50 38

2004 IMD 19 , 8 ,

SCI 14 , SCI 29

- (15%, 2002) 가

: (38%), (30%), (50%)

- 2010

, R &D ,

)

- (National
 Science Foundation & Graduate Fellowship)

(National Science Foundation's Graduate Fellowship)

NSF (National Science Foundation)가

1) 10,500, 27,500 (900)

-
- 가
- 2) -
- 3) R&D 가
- R & D 가
- 가 R&D 가

受賞

- .
4

- 가 ,
()

\$OC

- :
, 가

,
- 가

. ()

가 ()

- 가

2 가 20% 1970 12%
2000 25% 2 가(Jacob Hacker)

,Medicare , IT

,

(Improving
Opportunities and Incentives for Saving by Middle-
and Low-Income Households)

2 .

]

(401(k)) (Individual Retirement Accounts:IRA)

· 401(k)/IRA

55 ~59 가 가401(k)/IRA 가

1

401(k)/IRA 가

- :가 , ,

가

가

- :

·

·

401(k)/IRA

가

가

‘ , ’

가 , .

2

401(k)/IRA (Automatic 401(k)s and IRAs)

- 가 (Opt-in) (Opt-out)

- 401(k)/IRA 가

(automatic enrollment)

- 가(automatic escalation)

- index fund

(automatic investment)

- 가 (auto-

matic roll-over)

-

가

(Government Matching Contributions)

- 10% 401(k) 2 ,IRA 5

30% 가

-

-

-

(Lifetime Annuities)

-

401(k)/IRA

-

-

()가

-

가

-

가

(Social

Security Administration)

3

.

가

.

-

,

.

(가)

가

-

(Opt-out)

401(k)/IRA 가 . 가

가

‘ ,

.

가

-

-

가

- . 가 . 가

- 가 가 ,

-

4

, · 3 * (4

5)

* 가 , ()

,

2

*

,

* 가 ,

1
가.

R &D

,SOC

가

가

가

(take-down)

가 5 1996 4.28
 2000 5.97 , 2003 6.49 가 ,
 20% 1996 8.60% 2000
 6.96% 2003 6.25%
 가 가 .
 - 10%(P10) 가 1996 508 ,2000 460
 ,2003 437 10%(P90)
 1996 1,766 ,2000 1,987 ,2003
 2,291 ,P90/10 1996 3.47
 2000 4.32 ,2003 5.25 가

가

(: ,)

	1/5등	2/5등	3/5등	4/5등	5/5등	5등 中
1996	8.60	13.96	17.82	22.77	36.85	4.28
2000	6.96	12.54	16.88	22.09	41.53	5.97
2003	6.25	12.49	17.27	23.43	40.56	6.49
	P10	P50	P90	P90/10	P90/50	P50/10
1996	508	973	1,766	3.47	1.81	1.91
2000	460	1,027	1,987	4.32	1.93	2.23
2003	437	1,129	2,291	5.25	2.03	2.58

: 「가 」 ,1996,2000.
 ,「 」 ,2003.

가

가
 1996 ~2000 2001 ~2005
 가 1/3 가
 < 가 >

	※ 20% .. 1% ..	※ 20% .. 1% ..	※ 20% .. 2% ..
	※ 60% ..	※ 20% ..	※ 20% ..
1996. 1/4-2000. 4/4	0.68	0.60	0.22
2001. 1/4-2005. 2/4	0.29	0.22	- 0.28

*1996 ~2000 20% 100
 ,1 가 60 ,2001
 20% 100 가 1
 20% 가 22 .
 *1996 ~2000 20% 100 가 2
 20% 22 가 2001
 28 .
 - 가 가
 가

가

가

(economic security)

가

‘ 21 ’

가

가 .

, ,

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가 .

,

가

가

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가

가

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가

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R &D

가

,

가

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가

가

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가

가

가

가 가

	,	
	가 ,	, ,
	가,	
	,	가
		,

2

가 .

가

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가

가

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1 1

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가 ,

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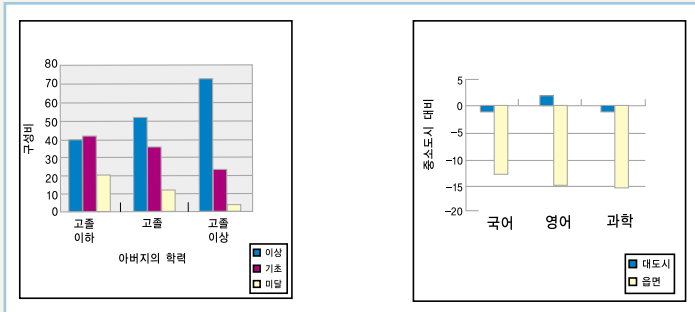
가

2002

가 가

(1 2002)

2002)



(2004)

(2 , 120

) 74.46 , 77.84 , 76.59 ,

54.37

가

(2005)

구분	통계량 (표준편차)				
	N	M	SD	F	비교구분
(1) 1점	134	282.28	42.98	20.044***	(1)~(2)*
(2) 2점	536	296.93	41.27		(1)~(4)***
(3) 2~3점	69	300.10	43.57		(1)~(5)***
(4) 4점	271	312.54	43.16		(2)~(4)***
(5) 5점	71	327.80	42.84		(2)~(5)***
합계	1,081	301.26	43.68		(3)~(5)**

*P .001, **P .01, *P .05

구분	통계량 (표준편차)				
	N	M	SD	F	비교구분
(1) 200점	214	291.81	42.59	18.300***	(1)~(3)***
(2) 201, ~350점	453	294.84	40.83		(1)~(4)***
(3) 351, ~500점	277	311.09	44.55		(2)~(3)***
(4) 500점	137	317.33	44.78		(2)~(4)***
합계	1,081	301.26	43.68		

*P .001, **P .01, *P .05

(2004) , 가
 , 10% 10% 가 6.8
 (731 vs.108) , 3.8 (591
 vs. 157) .
 - , 10%
 10% 7.9 , 4.8 .
 (47.8)
 (7.1) 6.7 (,가 ,
 2005)

(2005) , 가
 (1998 ~2003) (+)
 가 , 67%
 76% 7%^①
 , 가
 , 25% 25%
 가 30% 가 .

① : .

- 가
가 .
- 가 :
10% 10% 7.9 ,
10% 10% 4.8 (,2004)
- ,
' : . , ,
(2005 48
2006 278)
- : ,
- , () 가
:
• , •

： ，
，
：
-
-
-

· ·
가
， ， 가
가
： · · 67 (2006)
가 가

・
(2006.9 ~)
- ・ 20
,CEO,
, , ,

() ()

90% ()

- : () 4 (5),

6

- : 7.05%(2006 1) 20

-2005 2 ,2005 2 18 2

-2006 1 25 6 40% 가 .

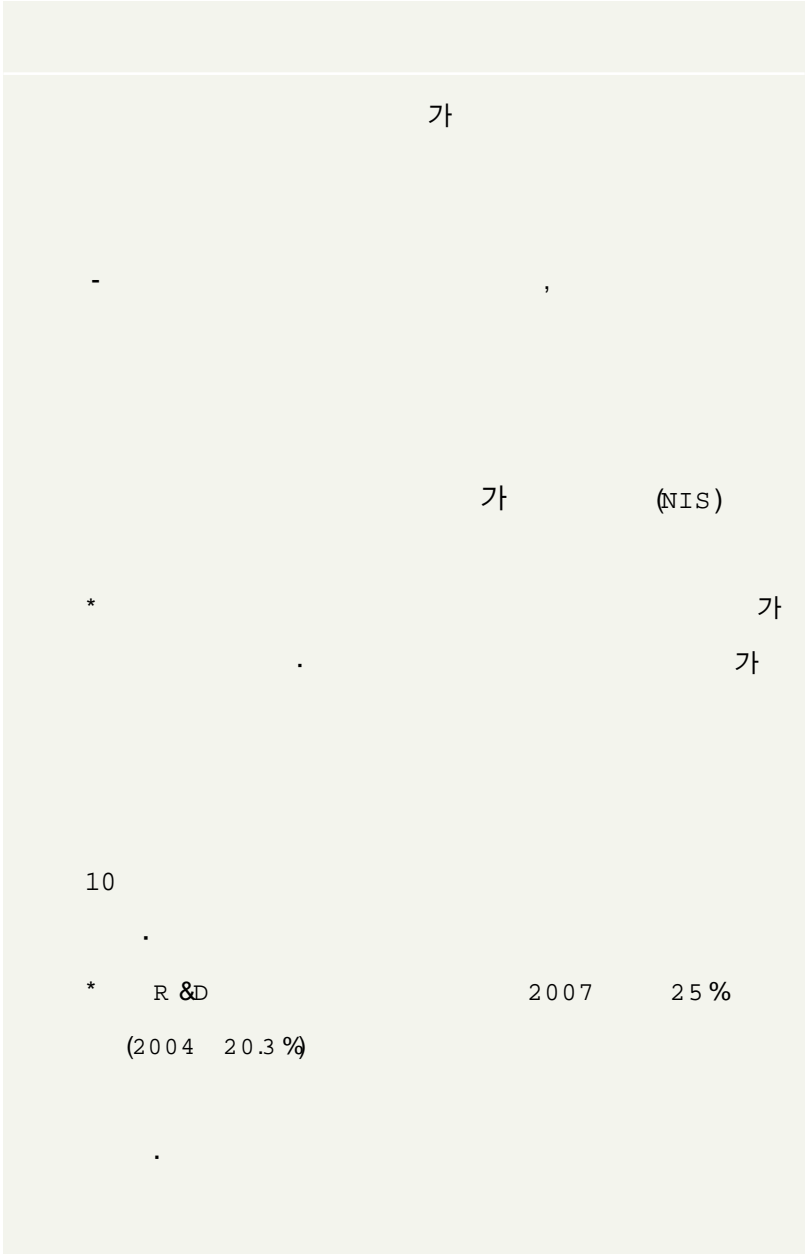
- 30% 53%(135,000)가

18,963 ,

2% 가

21

가



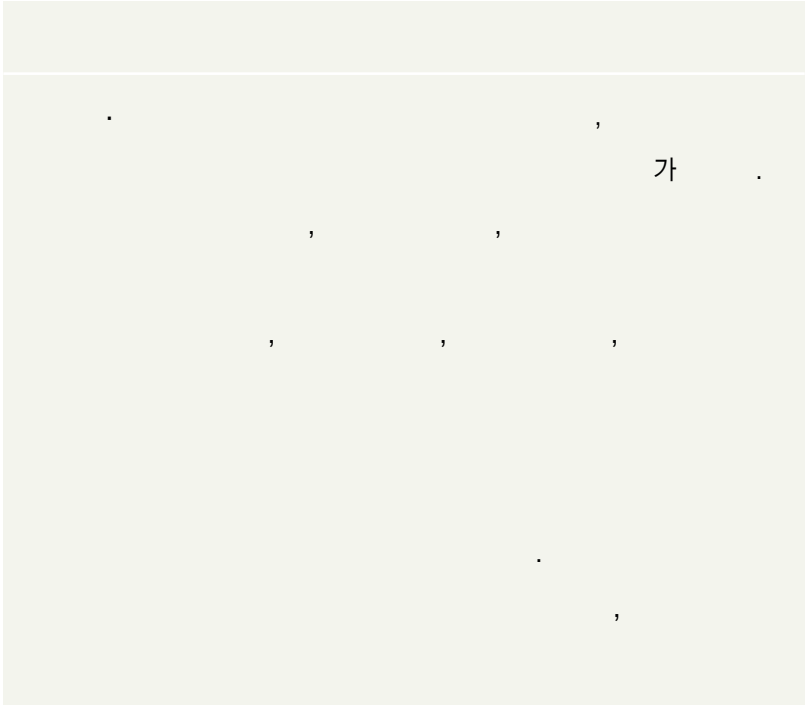
* R &D 2007 40 %
 (2004 32.1 %)

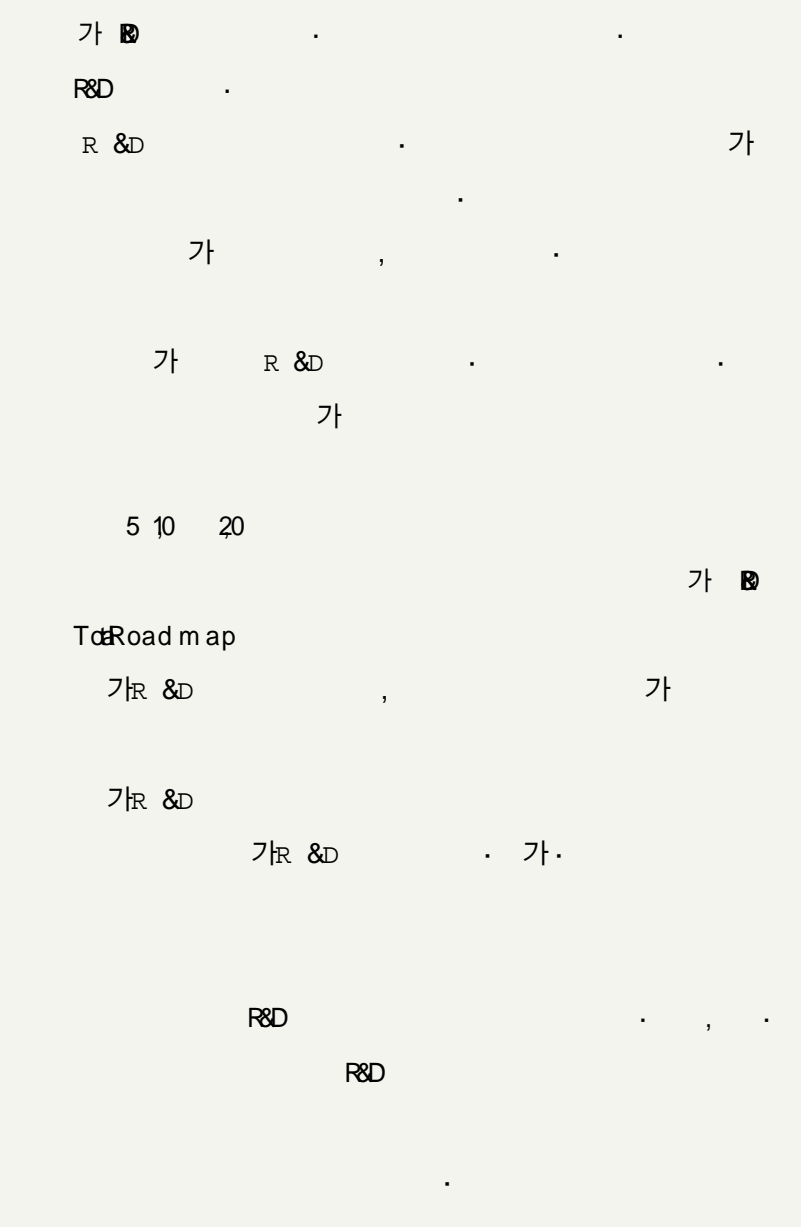
, R &D
 , SOC

, R &D ,
 .

(2006 ~2010)」

* 가 (2004.3)





· , , · ‘ , ’
· R &D

· , 가
美·中·印·日
· 가
· ,
II, , , ,
· ,
·

(14 ke ,) LNG 가

,

- SOC

,

SOC

SOC

‘ ’

‘ ’

- : , IC ,

- : ,

- : ,

- : Waterfront

- : (2004 23) 60%가

- :

,

- :

Trigger Rule

Trigger Rule: ,

. ()

,

,

가

- 가 (가 18%,
가 (OECD 40%).

- (,
)

- (.
)

- (,)

IMF

- 4

1 : (1999) 365
(2000)

2 : (2000)
(2004)

3 : (2005)

< > ,가 , , ,
가

, , , (, ,)
60% ,300

‘ 21 - , ’

, . . / . /

(2005)

(2004.11)

(EITC)

(2007.1)

- :2001 2 2005 6 2006 7

-가 . :2005 7 2006 13

, .

「 . 」 (2005.5.18)

「 . 」 (2005.9) 「

」 .

가

,

가

가

-

,

가

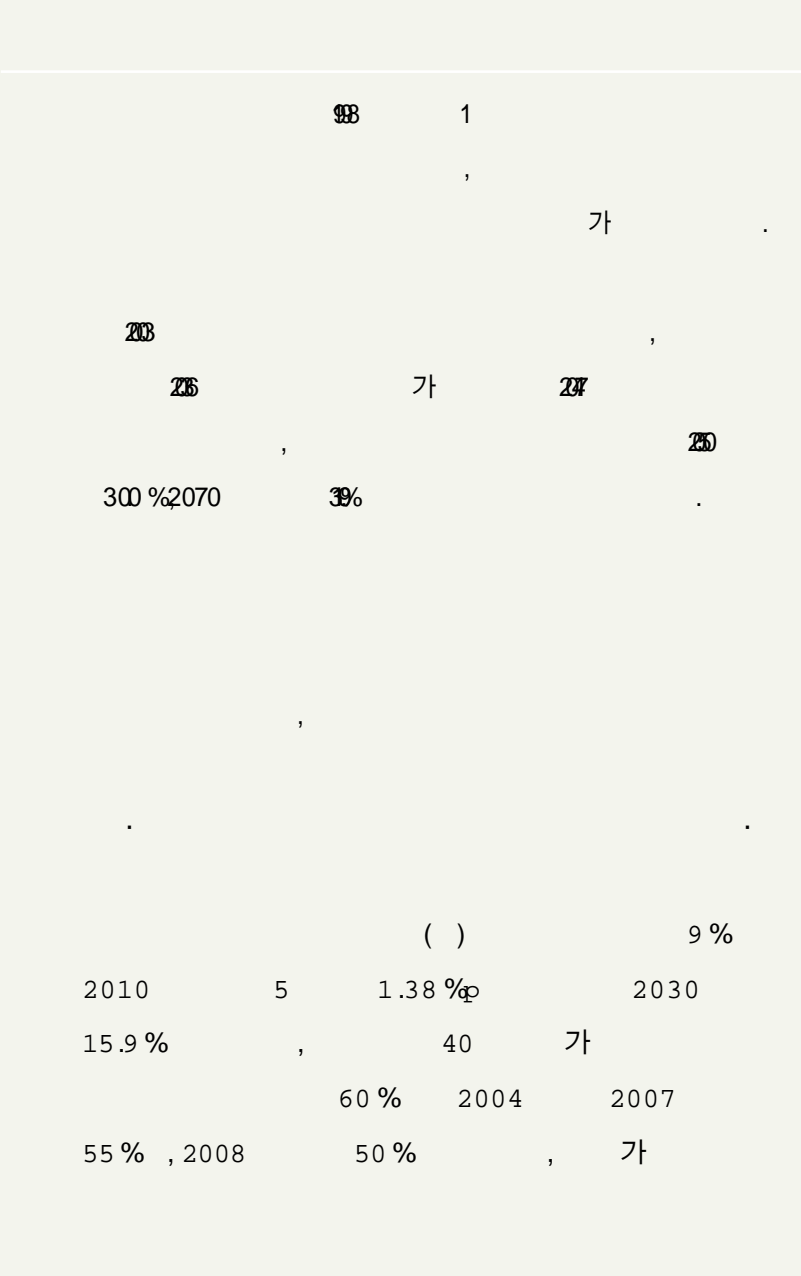
,

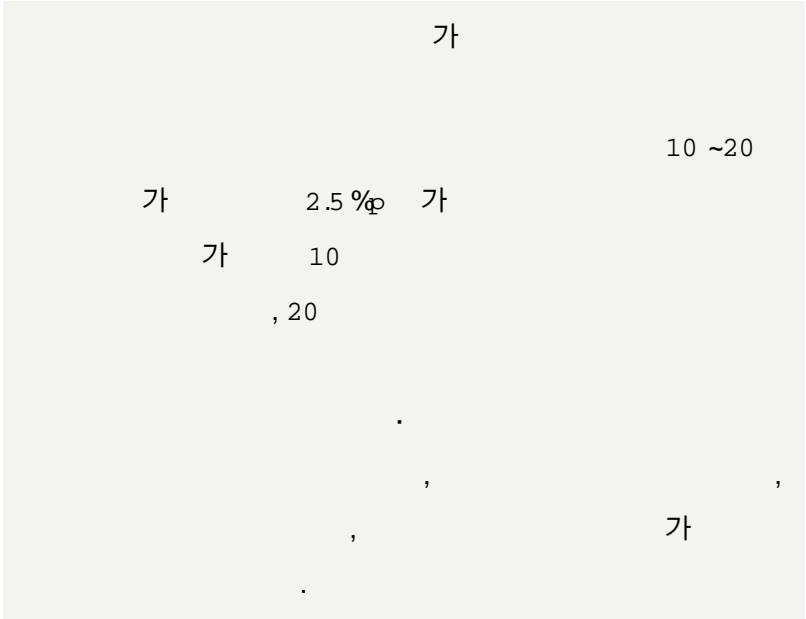
-

,

,

가





, 가
가가 .
,
.
- 가
가
- (cost sharing),
,
,
- ,

가 (2006 OECD Health Data)

OECD 가 OECD 가
 (OECD Health Data 2006) , OECD
 가 가 가 OECD 가
 .
 2006 2 (The Conference Board
 of Canada)
 2004 GDP ()
 5.6 % OECD 가 가 ,
 81 , 74 OECD
 가 (81 , 75) ,
 5.3 OECD 가 (5.7)

가 14 % 29 % ,
 가
 5

24 %

「

」

(Negative List System)

가

(Positive List System)

,

가

-

.

, 가

가

,

가

가

가

, 5

1

가

, , ,

日當 定額

,

17

(3)

가

,

가

,

가 (20%) 가

.

가
가
가

- (1)
- (2) .
- (3)
- (4)

가 .

가 가₃ 가
가

가

- 1/3 (USPS)

-

4

가 가

5

가

(1)

(2)

(3)

BSC

, 가

가,

e-

가

가

. 가 가

- 가 가 26

가

- 가 가 가 (가,
가, 가)

가 .

-

-

가

- 가

- .

가 가

가

- 가: 5 (, , , ,
) 가

- (가) 가:

(, , ,

), (), 가

가 . 가

- 가 가 가 . 가

- 가 가
- 가 가가
- 가
- 가 . . , 가
- 가

: 69.7 (23 %)
 가 : 106 (40 %)
 : , , 가
 (89 %) , ()가 7 %
 , (4 %)
 가

4 , 2005

DB

- outsourcing ,

- DB

- DB

- (,)

- ,

- :

가

BT↓

,

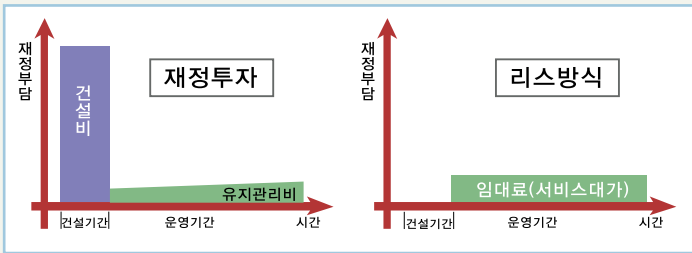
,

BTL (Build - Transfer - Lease)

BTL >

: , SOC ,
 : ,
 : ()
 : Life Cycle Cost

가 , , .
 , 20 ~ 30 , ,



2005 BTL

2006 15 8.3

가

BTL

THE
HAMILTON
PROJECT

An Economic Strategy
To Advance Opportunity,
Prosperity, and Growth

Roger C. Altman

Peter R. Orszag

Jason E. Bordoff

Robert E. Rubin

The Hamilton Project seeks to advance America's promise of opportunity, prosperity, and growth. The Project's economic strategy reflects a judgment that long-term prosperity is best achieved by making economic growth broad-based, by enhancing individual economic security, and by embracing a role for effective government in making needed public investments. Our strategy is strikingly different from the theories driving current economic policy: it calls for fiscal discipline and for increased public investment in key growth-enhancing areas. The Project will put forward innovative policy ideas from leading economic thinkers throughout the United States: ideas based on experience and evidence, not ideology and doctrine; to introduce new, sometimes controversial, policy options into the national debate with the goal of improving our country's economic policy.

The Project is named after Alexander Hamilton, the nation's first treasury secretary, who laid the foundation for the modern American economy. Consistent with the guiding principles of the Project, Hamilton stood for sound fiscal policy, believed that broad-based opportunity for advancement would drive American economic growth, and recognized that "prudent aids and encouragements on the part of government" are necessary to enhance and guide market forces.





An Economic Strategy to Advance Opportunity, Prosperity, and Growth

Roger C. Altman

Peter R. Orszag

Jason E. Bordoff

Robert E. Rubin

The Brookings Institution

APRIL 2006

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The Project is named after Alexander Hamilton, the nation's first treasury secretary, who laid the foundation for the modern American economy. An immigrant who was born into poverty and was self-schooled in his early years, Hamilton symbolizes the traditional American values of opportunity and upward mobility that motivate the Project's work. He fostered the nation's capital markets, encouraged commerce, and stood for sound fiscal policy. The guiding principles of the Project are consistent with Hamilton's deep belief that broad-based opportunity for advancement would drive American economic growth by motivating people to use the full range of their capacities. And he recognized not only the substantial power of markets to deliver economic growth but also the need for "prudent aids and encouragements on the part of government" to enhance and guide market forces. Hamilton was the first architect of American prosperity, and is an apt symbol for what we are trying to do in our time.



Executive Summary

We believe in America’s promise: that education and hard work can provide each individual with the opportunity to advance and allow each generation to do better than the one before. Today, however, that promise is in jeopardy because our nation is neither paying its way nor investing adequately in its future. Our nation has failed to make the tough decisions required to advance opportunity, prosperity, and growth over the years and decades ahead.

The Hamilton Project’s economic strategy reflects a judgment that long-term prosperity is best achieved by making economic growth broad-based, by enhancing individual economic security, and by embracing a role for effective government in making needed public investments. The Project’s strategy—strikingly different from the theories driving current economic policy—calls for fiscal discipline and for increased

public investment in key growth-enhancing areas.

The Project will put forward innovative policy ideas from leading economic thinkers throughout the United States—ideas based on experience and evidence, not ideology and doctrine—

We believe in America’s promise: that education and hard work can provide each individual with the opportunity to advance and allow each generation to do better than the one before.

to introduce new, sometimes controversial, policy options into the national debate with the goal of improving our country's economic policy.

Many options for addressing the fiscal problem have been identified; the most pressing need now is not new ideas, but greater political will and a bipartisan political process. The president and the leaders of both parties in both houses need to come together in a special process that recognizes the critical importance of these issues, acknowledges differences in views, and works to reach common ground with joint political accountability.

The failure to invest wisely in sound policies to promote economic growth is particularly problematic in light of the growing competition U.S. workers and firms face as the people of China, India, and other nations rapidly enter the global economy. Significant new intellectual work is needed to identify evidence- and experience-based policies to promote individual opportunity and strengthen America's economy.

The Project will therefore reach across the country to encourage many of the nation's leading thinkers to put forward new proposals and will help bring those ideas to bear on policy debates in a relevant and effective way.

Economic evidence and experience suggest three principles on which the Project's economic strategy is premised:

- **Broad-based economic growth is stronger and more sustainable:** Broad-based growth will be stronger and more sustainable than growth accruing disproportionately to a small segment of the population. When public policy excessively favors relatively few, the economy misses out on opportunities for innovation and productivity by the many.
- **Economic security and economic growth can be mutually reinforcing:** Not only does economic growth increase economic security, but economic security in turn can increase economic growth—by enabling people to take the risks that promote growth (such as starting a new business or investing in their own education), by getting families back on their feet quickly after unexpected shocks, and by lessening calls for growth—diminishing policies like closing our markets to competition.
- **Effective government can enhance economic growth:** Markets are the cornerstone of economic growth, but government must invest in critical needs that market forces will not adequately meet—such as education, infrastructure, and basic research. Government must rigorously seek efficiency, increased productivity, and internal reform so that it can most effectively target its policies to provide necessary services.

To achieve the goal of strong, sustainable, and broad-based eco-

conomic growth, the Project will identify and advance sound policy ideas that rest upon four pillars:

- **Education and work:** The productive power of the U.S. economy lies heavily with its people. The Project will explore ways to improve education—from prekindergarten through graduate school—to equip America’s youth to succeed in the knowledge-based economy; reform the nation’s job training and vocational education system; and increase work incentives for low-skilled workers.
- **Innovation and infrastructure:** Innovation fuels growth, creates jobs, and expands economic opportunity. With global economic activity becoming increasingly dependent on technology, the Project will propose ways of making more workers literate in science and engineering; adopting smarter incentives for private firms to undertake R&D and removing barriers to private-sector innovation; increasing the federal commitment to fundamental scientific research; achieving energy independence; and improving our nation’s physical infrastructure.
- **Savings and insurance:** The more security that people can achieve in their personal finances—through both savings and social insurance—the more confidence they can place in the future, making them more likely to seize opportunities and bounce back from adverse events. The

Project will be examining topics such as shoring up health-care coverage and reducing health-care costs; cushioning the economic shocks of job dislocation; and increasing retirement security—all in an effort to provide people with the economic security they need to be entrepreneurial and invest in their own skills.

- **Effective government:** Government has a limited but essential role in creating the conditions for growth in which all Americans can share. The Project will propose ways to increase government productivity and efficiency; realign government's activities in response to changing circumstances; reform government regulation so that it efficiently guides private firms when necessary without unduly hampering them; and take measures to make the Project's proposals budget-neutral.

I. Introduction

Americans have long believed that with education and hard work, each generation can do better than the one before and that where one starts in life should not limit where one ends up. This broad-based opportunity for individual advancement has provided a powerful incentive for industrious activity, spurring the unprecedented economic growth that the United States has enjoyed for more than two centuries. Yet the fundamental principle that all citizens should have an opportunity to succeed is at risk today because the nation is neither paying its way nor investing adequately in its future. At a time when the United States must take affirmative steps to secure its position as the world's leading economic power, our nation has failed to tackle its fiscal imbalance and neglected key areas of investment: we have a school system that fails to provide enough of its students with a world-class education; an infrastructure that is ill prepared for today's technological challenges; and a government that has not adapted to be as efficient and effective as today's world demands. Without a change in course, the lifetime prospects of today's younger Americans will be unnecessarily and unfairly inhibited—undermining the traditional vision of ever-increasing opportunity for succeeding generations.¹

1. As the National Academies recently concluded, “For the first time in generations, the nation's children could face poorer prospects than their parents and grandparents did. We owe our current prosperity, security, and good health to the investments of past generations, and we are obliged to renew those commitments in education, research, and innovation policies to ensure that the American people continue to benefit from the remarkable opportunities provided by the rapid development of the global economy.” See Committee on

America can meet its challenges and fulfill its promise by drawing on its great strengths—entrepreneurship, flexibility, education, and openness to new people and new ideas—which are qualities that the world economy rewards. It is a reflection of these strengths that the United States, with less than 5 percent of the world’s population, accounts for more than 20 percent of global economic output—much more than any other country.² The nation must combine these strengths with innovative thinking and political will to address the problems of the day.

The two greatest economic risks our nation faces today are our country’s large fiscal imbalance and inadequate investment in key growth-enhancing areas—such as education, health care, energy independence, scientific research, and infrastructure, among many others. These challenges have mutually reinforcing negative effects: the fiscal imbalance makes it more difficult to make the necessary critical investments to spur growth, while the lack of adequate investment in turn impairs the economic growth that could help to narrow the fiscal imbalance.

One risk to future prosperity is the significant fiscal gap that the United States faces. Large budget deficits are especially problematic given the nation’s low private saving rate and its large current

Prospering in the Global Economy of the 21st Century, *Rising Above the Gathering Storm: Energizing and Employing America for a Brighter Economic Future* (Washington, D.C.: National Academies Press, 2005), ES-8.

2. International Monetary Fund, *World Economic Outlook: Globalization and External Imbalances* (Washington, D.C.: International Monetary Fund, 2005), 198.

account deficit (which itself is partly caused by the budget deficit). In fiscal year 2005, the federal budget deficit amounted to more than \$300 billion, or more than 2 1/2 percent of GDP.³ Over the next ten years, a variety of independent projections suggest a deficit of roughly \$5 trillion, or approximately 3 percent of GDP.⁴ Thereafter, as the baby boomers increasingly reach retirement age and claim Social Security and Medicare benefits, government deficits and debt are likely to grow even more sharply.⁵

America's promise is in jeopardy because our nation is neither paying its way nor investing adequately in its future.

Mainstream economic analyses of sustained budget deficits underscore the adverse impact of deficits on long-term economic growth.⁶ Under this conventional view, ongoing budget deficits decrease

national saving, which reduces domestic investment and increases

3. Congressional Budget Office. *Monthly Budget Review, November 2005* (Washington, D.C.: Congressional Budget Office, 2005).

4. These projections assume that the tax cuts of 2001 and 2003 are extended. See, e.g., Center on Budget and Policy Priorities, Committee for Economic Development, and Concord Coalition, *Mid-Term and Long-Term Deficit Projections* (Washington, D.C.: Center on Budget and Policy Priorities, 2003).

5. For further discussion of budget projections, see Alan J. Auerbach, William G. Gale, and Peter R. Orszag, "New Estimates of the Budget Outlook" (paper prepared for "Fiscal Challenges: An Interdisciplinary Approach to Budget Policy" Conference, Gould School of Law, University of Southern California, Los Angeles, February 10-11, 2006).

6. This section draws upon Robert E. Rubin, Peter R. Orszag, and Allen Sinai, "Sustained

borrowing from abroad. The external borrowing that helps to finance the budget deficit is reflected in a larger current account deficit. The reduction in domestic investment (which lowers productivity growth) and the increase in the current account deficit (which requires that more of the returns from the domestic capital stock accrue to foreigners) both reduce future national income, with the loss in income steadily growing. Under the mainstream view, the costs imposed by sustained deficits tend to build gradually, rather than occur suddenly. Federal Reserve Chairman Ben Bernanke recently expressed precisely this worry: “ I am quite concerned about the intermediate-to-long-term federal budget outlook By holding down the growth of national saving and real capital accumulation, the prospective increase in the budget deficit will place at risk future living standards of our country. ”

The adverse consequences of sustained large budget deficits may well be far larger and occur more suddenly than the conventional analysis suggests, however. Substantial deficits projected far into the future can cause a fundamental shift in market expectations and a related loss of business and consumer confidence both at home and abroad. The unfavorable dynamic effects that could ensue are largely if not entirely excluded from the conventional analysis of budget

 Budget Deficits: Longer-Run U.S. Economic Performance and the Risk of Financial and Fiscal Disarray ” (paper prepared for “ National Economic and Financial Policies for Growth and Stability ” Andrew Brimmer Policy Forum, Allied Social Sciences Associations Annual Meeting, San Diego, January 4, 2004).

7. Greg Ip, “ Bernanke Wants Lower Deficits, Doesn’t Rule Out Tax Increases, ” *Wall Street Journal*, sec. A, March 15, 2006, 2.

deficits. This omission is understandable and appropriate in the context of deficits that are small and temporary; it is increasingly untenable, however, in an environment where deficits are large and permanent. Substantial ongoing deficits may severely and adversely affect expectations and confidence, which in turn can generate a self-reinforcing negative cycle among the fiscal deficit, financial markets, and the real economy.

The second major risk to sustained economic growth is that we are not investing adequately in key growth-enhancing areas. These failures are particularly problematic since advances in technology and transportation are bringing the people of China, India, and other nations into the global economy. For American workers, global competition is no longer limited to manufacturing; increasingly, workers from these populous countries are competing in high-skill, high-wage sectors. Indeed, they may ultimately compete in all “services that can be delivered electronically over long distances with little or no degradation in quality.”⁸ The global telecommunications revolution already allows many relatively high-end services that were previously viewed as location-specific, from investment banking research to x-ray reading, to be undertaken by workers even at substantial geographical distances.⁹

8. Alan S. Blinder, “Offshoring: The Next Industrial Revolution?” *Foreign Affairs* 85 (2): 113-28. For further discussion of offshoring, see Lael Brainard and Robert E. Litan, “‘Offshoring’ Service Jobs: Bane or Boon and What to Do?” Policy Brief 132 (Washington, D.C.: Brookings Institution, 2004).

9. As the New York Times columnist Thomas Friedman has put it, “They are not racing us to the bottom. They are racing us to the top.” See Thomas L. Friedman, “Still Eating Our Lunch,” *New York Times*, sec. A, September 16, 2005, 27.

In response to globalization, the United States could try to turn inward and shut out the forces of international competition. That approach, however, is unrealistic and unwise—unrealistic given the substantial cross-border connections that already exist, and unwise given the substantial aggregate economic benefits that can be obtained from trade and the tit-for-tat retaliatory steps that would likely result from other nations. At the same time, international trade supporters, including the authors of this article, must recognize the dislocations that can be caused by trade liberalization. Trade can precipitate concentrated harm to workers in particular industries and communities. It is thus not sufficient simply to embrace further trade liberalization; the nation must also expand policies intended to promote domestic productivity and spread not only the benefits but also the costs of trade liberalization broadly. The necessary policy changes include, among others, smarter approaches to education and worker training and innovative ways of providing stronger economic security without unduly weakening work incentives.

In light of the substantial budget deficit and these global challenges, America must invest adequately and wisely in sound public policy ideas—based on empirical evidence and experience, not ideology and doctrine—targeted to strengthen America’s economy. Now more than ever, sound public policy is essential to expanding individual opportunity and promoting growth.

The options for tackling the fiscal imbalance, at least over the next decade or so, have been delineated in various publications.¹⁰ The only real solution to the nation’s fiscal imbalance is some combina-

tion of reduced spending and increased revenue. Restoring fiscal discipline will require painful adjustments, and it is unrealistic to think that the required adjustments can be undertaken entirely on one side of the budget or the other. The decisions necessary to restore fiscal balance might be easier to enact and to enforce if policymakers reinstated credible budget rules governing both spending and taxes. These rules can take either one of the forms used in the past or perhaps a variant. To be sure, the fiscal challenge grows larger and more complex after the next decade, driven mostly by an aging population and ongoing increases in health-care costs. As part of addressing our fiscal imbalance, this entitlement problem must be addressed.

Although more analytical work on the entitlement problem would be useful, especially with regard to reform of Medicare and Medicaid, many options have already been put forward for tackling the nation's long-term fiscal deficit.¹¹ The principal problem is one of political choice and will, and what is most needed is a bipartisan political process for deciding among the options. The combination of serious and intermediate-term deficits and longer term entitlement imbalances is so large that the regular political process seems unlikely to produce a solution.¹² Any specific proposal is apt to be immediately

10. See, for example, Congressional Budget Office, *Budget Options* (Washington, D.C.: Congressional Budget Office, 2005); Chris Edwards, *Downsizing the Federal Government* (Washington, D.C.: CATO Institute, 2005); Alice M. Rivlin and Isabel Sawhill, eds., *Restoring Fiscal Sanity: How to Balance the Budget* (Washington, D.C.: Brookings Institution, 2004).

11. Alice M. Rivlin and Isabel Sawhill, eds., *Restoring Fiscal Sanity 2005: Meeting the Long-Run Challenge* (Washington, D.C.: Brookings Institution, 2005).

and sharply attacked. Moreover, these attacks taint the proposals put forward and tend as a consequence to take them off the table. Instead, the president and the leaders of both parties in both houses need to come together in a special process that recognizes the critical importance of these issues, acknowledges their differences, puts aside ideology, and works to reach common ground with joint political accountability.

Prosperity has neither trickled down nor rippled outward. Between 1973 and 2003, real GDP per capita in the United States increased hourly compensation rose only 13 percent.

In contrast to the fiscal problem, significant new intellectual work is needed to identify and devise innovative approaches to investing in key growth-enhancing areas. The Hamilton Project will therefore provide an overarching strategy, and policy options consistent

with that strategy, for renewing the nation's commitment to broad-based economic growth. The Project's proposals will come from across the nation, taking cutting-edge and evidence-based ideas from economists and others and bringing them to bear on policy debates in

12. See Kevin Hassett, "President Bush, Please Listen to Robert Rubin," *Bloomberg.com*, March 13, 2006, <http://www.bloomberg.com/index.html>. "Eventually, key members of both parties will have to sit down in a room and talk under the cone of silence about solutions. After much deliberation, a compromise solution must be reached, and presented to the public with wide bipartisan support. No other approach has any chance."

a relevant and effective way. Each idea will represent an innovative step in the right direction to upgrade the country's policies. Together, these proposals will represent a portfolio of options from which policymakers may choose, rather than a comprehensive "solution" to the nation's challenges.

Today's new realities require not only sweeping vision and political courage, but also innovative and smart ideas to confront our most pressing economic challenges. By harnessing promising ideas from throughout the country and propelling them into the national policy debate, The Hamilton Project will help our country renew its promise to America's children that every generation has the opportunity to do better than the one that preceded it. Providing such opportunity will foster stronger economic growth and continued American global leadership.

II. Principles of The Hamilton Project

The economic strategy envisioned by The Hamilton Project is based upon three key principles: that economic growth must be broad-based to be strong and sustainable over the long term; that economic security and economic growth can be mutually reinforcing; and that an effective government can improve economic performance.

These principles, especially in combination, offer a strikingly different vision from supply-side economics, which emphasizes that marginal tax rates above all else are the core driver of economic growth. Claims that tax cuts can even come close to paying for themselves have been shown to be flatly false.¹³ Regardless of whether a substantial focus on marginal tax rates may have been appropriate when such rates were 70 percent or higher, that day has long passed, and therefore such a focus is no longer relevant. The time is overdue for an alternative economic growth strategy, one that is more attuned to the situation in which the nation now finds itself.

Principle 1: Broad-based economic growth is stronger and more sustainable.

Economic growth will ultimately be stronger and more sustainable if

13. See Congressional Budget Office, *Analyzing the Economic and Budgetary Effects of a 10 Percent Cut in Income Tax Rates* (Washington, D.C.: Congressional Budget Office, 2005); and William G. Gale, Peter R. Orszag, and Timothy T. Taylor, *Taxing the Future: Fiscal Policy under the Bush Administration* (Washington, D.C.: Brookings Institution, 2006).

all Americans have the opportunity to contribute to and benefit from it.¹⁴ Unfortunately, the nation is now failing to deliver on that principle. As Harvard economist Benjamin Friedman explains:

Broad-based economic growth in America was not a myth. Nor is it true that the growth Americans enjoyed in the early postwar decades was merely an aberration to which we nonetheless became accustomed. The pace of increase in living standards in those years was little more than what the nation had experienced on average during the previous century and a half. It is instead our own era, dating from the early 1970s, that stands out as exceptional. A rising standard of living for the great majority of our citizens has in fact been the American norm, and it is we, today, who are failing to achieve it.¹⁵

Today, too many Americans are not fully sharing in the nation's prosperity. Between 1947 and 1973, productivity and real median family income both grew by 2.8 percent per year.¹⁶ Since 1973, however, productivity growth has continued to average 2.7 percent per year while real median family income has risen only 1.0 percent per

14. For further elaboration on the case that shared growth and robust growth can be complementary objectives, see Gene Sperling, *The Pro-Growth Progressive: An Economic Strategy for Shared Prosperity* (New York: Simon & Schuster, 2005).

15. Benjamin M. Friedman, *The Moral Consequences of Economic Growth* (New York: Knopf, 2005), 435-6.

16. Lawrence Mishel, Jared Bernstein, and Sylvia Allegretto, *State of Working America 2004/2005* (Ithaca, N.Y.: Cornell University Press, 2005), 46.

year.¹⁷ Between 1973 and 2003, real GDP per capita increased 73 percent, while real median hourly compensation rose only 13 percent.¹⁸ Prosperity has neither trickled down nor rippled outward.

Today’s Americans are every bit as willing as their predecessors to work hard, dream big, and sacrifice for the sake of their families. In return, they ask for no more than their parents or grandparents did: a fair shot at advancement. If growth is not broad-based, this fundamental social pact will not be fulfilled. Expanding opportunity is thus crucial not only to promote long-term economic growth, but also to realize the core American value that merit and effort should matter much more to professional success than do the circumstances of one’s family.

Furthermore, broad-based growth is likely to be stronger and more sustainable than growth that accrues disproportionately to a small segment of the population. When public policy excessively favors

17. The meager income gains that most American families have enjoyed since the 1970s, furthermore, have come largely from increased participation in the paid workforce among wives. This increased labor force participation has many benefits, but it also has forced more families to navigate the challenges and costs of having two working parents. See generally Elizabeth Warren and Amelia Warren Tyagi, *The Two-Income Trap: Why Middle-Class Mothers and Fathers Are Going Broke (with Surprising Solutions That Will Change Our Children’s Futures)* (New York: Basic Books, 2003).

18. Bureau of Economic Analysis, Interactive Access to National Income and Product Accounts Tables, table7.1, “Selected per Capita Product and Income Series in Current and Chained Dollars,” Economic Policy Institute, Datazone, National Data from *The State of Working America 2004/2005*. “Productivity and Median and Average Compensation, 1973-2003” (Washington, D.C.: Economic Policy Institute, 2005), http://www.epinet.org/datazone/05/prody_comp.pdf.

relatively few, growth suffers because America misses out on much of our people’s potential for innovation and productivity. For example, without a quality public education, the middle-income child is less likely to become the highly productive worker of the future; without adequate access to capital, the potentially successful moderate-income businesswoman is less likely to get her business off the ground.

In political terms, excluding significant parts of the population from the fruits of economic growth also risks a backlash that can threaten prosperity. As former Federal Reserve Chairman Alan Greenspan recently put it, “[A]n increased concentration of income . . . is not the type of thing which a democratic society, a capitalist democratic society can really accept without addressing”¹⁹ Both the economic and political effects underscore the benefits of broad-based growth, a notion supported by a variety of empirical evidence. As the World Bank recently concluded in a major study of the topic,

“ Because talent and ideas are widely distributed in the population, a prosperous modern society requires the mass of people to have incentives—and a state that can and will provide key complementary inputs and public goods. It therefore requires an underlying set of institutions that

19. Joint Economic Committee, *The Economic Outlook*, 109th Cong., 1st sess., 2005. Between 1979 and 2002, for example, average after-tax income rose by 111 percent among the top 1 percent of the population but by only 15 percent in the middle fifth of the population. See Congressional Budget Office, *Effective Federal Tax Rates: 1979-2002* (Washington, D.C.: Congressional Budget Office, 2005), table 1C.

generate equality of opportunity for individuals and assure the accountability of politicians to all. . . . Growth certainly can occur in societies in which these conditions do not apply. But the preponderance of evidence suggests that such growth is unsustainable. This perspective is consistent with historical narratives, basic patterns in cross-country data, and more careful causal empirical work on the sources of prosperity. ”²⁰

Principle 2: Economic security and economic growth can be mutually reinforcing.

Economic growth can clearly increase economic security, but economic security can also increase economic growth. Many policymakers and analysts have been trained to believe that providing more security to families must come at the expense of economic performance and that these two goals are thus contradictory objectives.²¹

Especially over the long term, however, the traditional view misses three key points. First, a basic level of security frees people to take the risks—for example, starting a business, investing in their own education, or trying an unconventional career—that lead to economic growth.²² With inadequate protection against downside risk, people

20. World Bank, *World Development Report 2006: Equity and Development* (Washington, D.C.: World Bank, 2005), 124-5.

21. As one leading textbook observes, “As the government insures individuals against being poor, it raises the incentive for individuals to be poor.” Jonathan Gruber, *Public Finance and Public Policy* (New York: Worth Publishers), 463.

tend to be overcautious, “fearing to venture out into the rapids where real achievement is possible,” as Robert Shiller of Yale has argued. “Brilliant careers go untried because of the fear of economic setback.”²³ Second, if hardship does occur, some

degree of assistance can provide the resources to help a family thrive again. Families with access to some form of financial assistance, educational and training opportunities, and basic health care are less

Principles of The Hamilton Project

Broad-based economic growth is stronger and more sustainable

Economic security and economic growth can be mutually reinforcing

Effective government can enhance economic growth

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22. See, for example, Hans-Werner Sinn, “Social Insurance, Incentives, and Risk Taking” (Working Paper 5335, Cambridge, Mass.: National Bureau of Economic Research, 1995). Empirical evidence also suggests that generous personal bankruptcy laws are associated with higher levels of venture capital; that workers who are highly fearful of losing their jobs invest less in their jobs and job skills than those who are more secure; and that investment in education and job skills is higher when workers have key risk protections. See John Armour and Douglas Cumming, “The Legal Road to Replicating Silicon Valley” (Working Paper 281, Cambridge, UK: Centre for Business Research, University of Cambridge, 2004); Lars Osberg, “Economic Insecurity” (Discussion Paper 88, Sydney: Social Policy Research Centre, University of New South Wales, 1998); Margarita Esteves-Abe, Torben Iversen, and David Soskice, “Social Protection and the Formation of Skills: A Reinterpretation of the Welfare State” (paper prepared for the 95th American Political Science Association Meeting, Atlanta, September 2-5, 1999); and Sauro Mocetti, “Social Protection and Human Capital: Test of a Hypothesis” (Working Paper 425, Siena, Italy: Department of Economics, University of Siena, 2004).
23. Robert Shiller, *The New Financial Order: Risk in the 21st Century* (Princeton, N.J.:

likely to be permanently harmed by the temporary setbacks that are an inevitable part of a dynamic economy. For families experiencing short-term difficulties, a safety net can thus be a springboard to a better future. Finally, a basic level of economic security can lessen political demands for protectionism and other growth-diminishing policies. The benefits of new technology and competition tend to be spread widely across the economy, but are often highly disruptive to a certain industry or set of jobs. Individuals in the affected sectors may naturally resist the adverse effects on their own jobs associated with such overall progress. In this context, providing a basic level of economic security can ease transitions and help to avoid policy responses that may hamper overall economic growth.

To be sure, providing too much security can harm economic growth by excessively blunting incentives to work, innovate, and invest, and some developed nations have gotten the balance wrong in this way. But any such adverse effects on growth can be as much a matter of *how* economic security is provided—and in particular whether policy design pays careful attention to incentives—as *how much* security is provided.²⁴ Furthermore, insufficient economic security also harms

Princeton University Press, 2003), 8. Senator Barack Obama has made a similar point, arguing that “these safety nets are exactly what encourage each of us to be risk-takers and entrepreneurs who are free to pursue our individual ambitions. ... We take a chance on startups and small businesses because we know that if they fail, there are protections available to cushion our fall. Corporations across America have limited liability for this very reason. Families should too—and that’s why we need social insurance” (Barack Obama, “A Hope to Fulfill” [remarks prepared for luncheon at the National Press Club, Washington, D.C., April 26, 2005]).

growth, and thus even from the perspective of economic growth alone, providing a core level of security is beneficial. Policymakers must thus seek the right balance, recognizing that both the form and amount of economic security can affect economic growth and individual well-being.

Principle 3: Effective government can enhance economic growth.

Markets are the cornerstone of economic growth. Yet market forces, while potent, will not by themselves generate adequate investments in education and training. Neither will markets generate sufficient investments in science and infrastructure—such as the type of government-funded “blue sky” research with no immediately apparent commercial viability that led to the Internet’s creation—which are crucial to economic growth. To achieve strong, sustained, and broad-based economic growth, market forces must be supported and supplemented by an effective public role. For example, government must ensure that the rules of the game are fair, transparent, and binding for all parties. The notion that strong growth over the long term is possible simply by “getting government out of the way” is fundamentally misguided, since sound government policy is essential to maximizing long-term growth.

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24. Rebecca Blank notes that equity and efficiency need not always be in tension and that how policies are designed (e.g., whether they carry a work or earnings requirement) may substantially affect their impact on economic efficiency (Rebecca M. Blank, “Can Equity and Efficiency Complement Each Other?” [Adam Smith Lecture, European Association of Labour Economists, Jyväskylä, Finland, September 15, 2001]).

To best promote economic growth, though, the government must continually seek efficiency and reevaluate certain roles as circumstances change. The government's ability to respond flexibly to evolving needs increases the likelihood that the nation's resources will be efficiently used and that policymakers can remain focused on essential governmental functions. The government must thus rigorously seek efficiency, increased productivity, and internal reform so that it can most effectively provide the services necessary for opportunity and economic growth. Government regulation of private business should similarly be designed to achieve its objectives at the least possible economic cost. In devising regulations, government leaders must recognize that risks can be mitigated but not entirely eliminated, and they must thus seek to balance risks rather than futilely and unwisely attempt to eliminate them.

In addition to demanding a government that works well, the nation must be willing to pay for those services the government provides so that the burden is not simply passed to future generations. The government should thus align its activities with the nation's pressing needs and then ensure it has sufficient revenue to pay for them.

III. Pillars of The Hamilton Project

The proposals from The Hamilton Project rest upon four pillars: education and work; innovation and infrastructure; savings and insurance; and effective government. In all four areas, current policy does not provide an effective strategy for success in the decade ahead and beyond.

I. Education and Work

The productive power of the U.S. economy lies heavily with its people. The Office of Management and Budget, for example, has estimated that all privately owned commercial buildings and equipment in the United States are worth \$13 trillion—but the nation’s “human capital,” as embodied in the skills of its workforce, is worth \$48 trillion.²⁵

The predominant importance of human capital underscores the need to provide all Americans with the knowledge and incentives required to succeed. In an increasingly integrated global marketplace, the United States simply cannot afford to have substantial segments of its population underutilized because they lack educational or work opportunities. Middle-income families should be able to send their children to world-class public schools and universities. Baby boomers should be able to enjoy second careers before they retire.

25. Office of Management and Budget, *Analytical Perspectives, Budget of the United States Fiscal Year 2007* (Washington, D.C.: Office of Management and Budget, 2005), 195.

And American workers in general should be able to look to a future with promising job possibilities.

Education is an essential ingredient in broad-based growth, since it promotes both opportunity and productivity.²⁶ And just as investments in physical capital carry a rate of return, investments in human capital do also. Indeed, studies suggest that the real rate of return on investments in education and training programs—in terms of the payoff to lifetime earnings relative to the up-front costs—is between 7 and 10 percent per year.

Unfortunately, the nation is missing out on many of the potential benefits of a high-quality educational and training system.²⁷ Indeed,

26. In addition to promoting opportunity and economic growth, education carries a variety of other benefits. For example, political scientists have extolled the benefits of an educated electorate, and evidence suggests that more-educated individuals make better citizens along a variety of dimensions. For example, more-educated Americans are more politically involved than less-educated citizens, are more likely to perform volunteer work, and are less likely to commit crimes.

27. The nation also no longer has the benefit of a rapidly expanding number of indigenous educated workers. Following dramatic increases throughout much of the twentieth century, the increase in average educational attainment in the workforce has now slowed substantially. The rate of increase is likely to slow even further, and some analysts have predicted that the average educational levels of the U.S. workforce may even decline. The implication is that the beneficial impact from education on economic growth will be attenuated. As Lawrence Summers has emphasized, “To an extent we have not fully appreciated, we have had rising human capital as a wind behind our backs in improving the performance of the economy over the past twenty years, and we will not have a similarly large thrust from increasing levels of human capital in the future” (Lawrence H. Summers, “Comments,” in *Inequality in America: What Role for Human Capital Policies*, ed. Benjamin M. Friedman [Cambridge, Mass.: MIT Press, 2003], 290).

the United States now trails most developed countries in student achievement. In 2003, for example, the average academic performance for fifteen-year-old students in the United States ranked in a tie for twenty-first place.²⁸ The problem is not limited to average performance: the United States also ranks near the bottom in the percentage of students who perform exceptionally.²⁹ The nation's higher education system is also under stress.³⁰ The gap in college completion rates by family income is substantial and growing. In the late 1970s, students from families in the bottom 75 percent of incomes

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28. Programme for International Student Assessment, *PISA 2003 Technical Report* (Paris: Programme for International Student Assessment, Organisation for Economic Co-operation and Development, 2003). The results from the Trends in International Mathematics and Science Study (TIMSS) are somewhat more encouraging, but still suggest that U.S. students lag behind. TIMSS suggests that in 2003, U.S. fourth-graders were in the middle of the international distribution in mathematics, outperforming fourth-graders in seven countries and being outperformed by fourth-graders in seven countries. U.S. eighth-graders outperformed students from six countries and were outperformed by students from seven countries. The results for science relative to other industrialized economies were similarly mixed. See National Center for Education Statistics, *Highlights from the Trends in International Mathematics and Science Study (TIMSS) 2003* (Washington, D.C.: National Center for Education Statistics, Department of Education, 2004).
29. Ten percent of American students scored in the top two categories in math, a share lower than twenty-one other countries. Twelve percent scored in the top category in problem-solving, a share lower than twenty other countries. See Organisation for Economic Co-operation and Development, *Education at a Glance 2005: OECD Indicators 2005* (Paris: Organisation for Economic Co-operation and Development, 2005), tables A4.1 and A5.1.
30. Over the past twenty years, state government support for higher education has gradually waned, and the share of higher-education expenditures subsidized by state appropriations has declined. See Thomas J. Kane, Peter R. Orszag, and Emil Apostolov, "Higher Education Appropriations and Public Universities: Role of Medicaid and the Business Cycle," in *Brookings-Wharton Papers on Urban Affairs: 2005*, ed. Gary Burtless and Janet Rothenberg Pack (Washington, D.C.: Brookings Institution, 2005).

earned 56 percent of all bachelor's degrees; by 2003, that share had fallen to 42 percent.³¹

The Hamilton Project will put forward research-based proposals aimed at elementary and secondary schools, higher education, workforce training, and work incentives. For example, one of the most important determinants of how much students learn is the quality of their teachers. Policymakers have traditionally regulated teacher quality by requiring certain credentials for teachers entering the profession. Recent research, though, suggests that such paper qualifications do not help identify effective teachers: people can look good on paper but turn out to be ineffective in the classroom, and those who lack paper qualifications can turn out to be remarkably effective as teachers. The nation therefore needs a major paradigm shift in how teachers are hired and evaluated. Rather than continuing to focus on teacher *credentials*, it would make more sense to increase focus on teacher *effectiveness* on the job.³² The result would be that a larger

31. A significant gap in college completion rates by socioeconomic status exists even after controlling for some measures of ability. For example, more than 70 percent of students who performed in the top 25 percent of their class in eighth-grade math in 1988 and were in the top 25 percent of socioeconomic status went on to attain a bachelor's degree. Yet among students who scored in the top fourth but were in the bottom fourth of socioeconomic status, only 29 percent went on to complete college. See National Center for Education Statistics, *Youth Indicators 2005: Trends in the Well-Being of American Youth* (Washington, D.C.: National Center for Education Statistics, Department of Education, 2005), 50.

32. Robert Gordon, Thomas J. Kane, and Douglas O. Staiger, "Identifying Effective Teachers Using Performance on the Job" (White Paper 2006-01, Washington, D.C.: The Hamilton Project, 2006).

number of teachers would be hired each year—those with and without certification—but a smaller percentage—only those who perform well on the job—would receive tenure.

Another proposal addresses “summer learning loss.” Children from disadvantaged families tend to experience greater losses in skills during summer vacations than do their more advantaged counterparts. Several studies provide evidence that summer school or summer enrichment programs are effective interventions for stanching this learning loss. This evidence inspires the creation of Summer Opportunity Scholarships (SOS) so that economically disadvantaged children in kindergarten through fifth grade can participate in a six-week summer school or summer enrichment program of their parents’ choosing.³³

In addition to these proposals, the Project will unveil a variety of others on a regular basis. Some early proposals in education and work will cover preschool education; reforms to the nation’s job training and vocational education system; and work incentives for low-skilled workers.

II. Innovation and Infrastructure

Innovation fuels growth, creates jobs, and expands economic oppor-

33. Molly E. Fifer and Alan B. Krueger, “Summer Opportunity Scholarships (SOS): A Proposal to Narrow the Skills Gap” (White Paper 2006-03, Washington, D.C.: The Hamilton Project, 2006).

tunity. According to the National Academies, “ Since the Industrial Revolution, the growth of economies throughout the world has been driven largely by the pursuit of scientific understanding, the application of engineering solutions, and continual technological innovation.”³⁴ America must do more to spur advances in science and technology—and must build physical and legal structures that accelerate the process of discovery.

To be sure, the United States is still the undisputed world leader in science and technology. The latest IMD International World Competitiveness Yearbook ranks the United States first.³⁵ U.S. researchers lead the world in the volume of articles published and in the frequency with which those papers are cited by others.³⁶ And a recent comparison concluded that thirty-eight of the world’s fifty

Since the Industrial Revolution, the growth of economies throughout the world has been driven largely by the pursuit of scientific understanding, the application of engineering solutions, and continual technological innovation.

- NATIONAL ACADEMIES

34. Committee on Prospering in the Global Economy of the 21st Century, *Rising Above the Gathering Storm: Energizing and Employing America for a Brighter Economic Future* (Washington, D.C.: National Academies), 2-1.

35. IMD International, *IMD World Competitiveness Yearbook 2005* (Lausanne, Switzerland: IMD International, 2005).

36. David A. King, “The Scientific Impact of Nations,” *Nature* 430 (6997): 311-6.

leading research institutions were in the United States; these have for decades been the destination of choice for the world's best science and engineering graduate students.³⁷

Despite this historical dominance, however, the United States must now increase its investment in science and technology. Some observers are concerned by indications that the United States' position as the global leader in science may be slipping. For example, the share of American bachelor's degrees earned in science and engineering has changed little over the past few decades, while the rest of the world has substantially increased its educational attainment in these areas.³⁸ By 2010, it is estimated that China will produce more science and engineering PhDs than the United States.³⁹

More fundamentally, as economic growth becomes increasingly dependent on technology, investments in scientific research become ever more important. Even historically, investments in research and development have been found to carry substantial rates of return, estimated at 20 to 30 percent.⁴⁰ To capture more of these returns, the

37. Shanghai Jiao Tong University, Institute of Higher Education, *Academic Ranking of World Universities - 2005* (Shanghai, China: Institute of Higher Education, Shanghai Jiao Tong University, 2005).

38. National Science Board, *Science and Engineering Indicators 2004, Volume 2: Appendix Tables* (Arlington, VA: National Science Board, National Science Foundation, 2004), A2-36, A2-78.

39. Richard B. Freeman, "Does Globalization of the Scientific/Engineering Workforce Threaten U.S. Economic Leadership?" (Working Paper 11457, Cambridge, Mass.: National Bureau of Economic Research, 2005), 4.

40. See Congressional Budget Office, *R&D and Productivity Growth: A Background Paper*

United States must make more workers literate in science and engineering; adopt smarter incentives for private firms to undertake research and development; and embrace a redesigned system of national investments in—along with a stronger commitment to—fundamental scientific research.

First, increasing the number of scientists and engineers requires overcoming various obstacles. More than half of college freshmen who intend to major in science and engineering fail to do so; part of the reason is that students come to college unprepared in science and math. Even those who major in science or engineering often fail to continue in those fields after graduation, in large part because the job market rewards have worsened relative to alternative high-level occupations for young workers. A related issue is that as the U.S.-born share of the world's scientific talent declines, our nation must increasingly attract skilled scientists and engineers from abroad. Indeed, more than one-third of all businesses founded in Silicon Valley during the 1990s were started by people born overseas—people like Google founder Sergei Brin, who revolutionized how we get information, and eBay founder Pierre Omidyar, who created a powerful economic marketplace where more than 75,000 Americans currently make a living.⁴¹ The Hamilton Project will explore ideas—

(Washington, D.C.: Congressional Budget Office, 2005), 33. See also Alister Scott, Grovfi Steyn, Aldo Geuna, Stefano Brusoni, and Ed Steinmueller, “The Economic Returns to Basic Research and the Benefits of University-Industry Relationships” (Sussex, UK: Science and Technology Policy Research, University of Sussex).

41. AnnaLee Saxenian, *Silicon Valley's New Immigrant Entrepreneurs* (San Francisco: Public Policy Institute of California, 1999).

such as increasing the number or dollar value of the prestigious National Science Foundation’s Graduate Research Fellowship—to increase the number of science and engineering students in our nation’s colleges and graduate schools.⁴²

Second, private-sector incentives for technological innovation are influenced by factors including the tax code and the patent system. Abraham Lincoln extolled the virtues of the patent system, saying it “added the fuel of interest to the fire of genius.”⁴³ Yet today’s patent system is being overwhelmed and abused. The number of domestic patent applications nearly doubled over the last decade.⁴⁴ The need to acquire patents as a precautionary measure and litigate patent lawsuits adversely affects innovation by creating high costs and keeping an excessive amount of information out of the public realm.⁴⁵ As the Federal Trade Commission concluded in 2003, “questionable patents are a significant competitive concern and can harm innovation.”⁴⁶ The Hamilton Project will put forward proposals to address these and related problems.⁴⁷

42. See Richard B. Freeman, Tanwin Chang, and Hanley Chiang, “Supporting ‘the Best and Brightest’ in Science and Engineering: NSF Graduate Research Fellowships” (Working Paper 11623, Cambridge, Mass: National Bureau of Economic Research, 2005).

43. Interestingly, Lincoln was the only U.S. president to hold a patent, receiving Patent 6,469 in 1849 for “A Device for Buoying Vessels over Shoals.”

44. Stephen A. Merrill, Richard C. Levin, and Mark B. Myers, eds. *A Patent System for the 21st Century* (Washington, D.C.: National Academies Press, 2004), 1-2.

45. Stephen A. Merrill, Richard C. Levin, and Mark B. Myers, eds. *A Patent System for the 21st Century* (Washington, D.C.: National Academies Press, 2004), 80.

46. Federal Trade Commission, *To Promote Innovation: The Proper Balance of Competition and Patent Law and Policy* (Washington, D.C.: Federal Trade Commission, 2003).

47. For example, the Project is exploring an idea for a two-tiered system of patents to focus

Third, the federal government must revamp and strengthen its investments in research and development. Although basic research funding is still near its historically high level, funding has shifted away from long-term, visionary research.⁴⁸ The most noted example of this shift has been the new funding process at the Defense Advanced Research Projects Agency (DARPA), which has increasingly focused on immediate payoffs at the expense of the sort of open-ended, blue sky research that led to many transformative innovations, including the Internet, communications and weather satellites, global positioning technology, and even the search technologies used by Google.⁴⁹ The effects of this shift may not be noticeable immediately, but scientists argue that it could manifest itself more forcefully within five or ten years.

The Hamilton Project will put forward several proposals to reorient federal R&D policy. Among these is a proposal concerning how the government can better promote innovation by choosing research pro-

 limited patent office resources on the most consequential patent applications. Most patents would get only streamlined review by the patent office but then face stricter scrutiny in courts, while firms could pay more for thorough patent office review of more commercially important patents that would then receive greater deference from courts.

48. National Science Foundation, *Federal Funds for Research and Development: Fiscal Years 1970-2003* (Arlington, Va.: National Science Foundation, 2004).

49. As the U.S. Senate Armed Services Committee noted in the FY 2004 National Defense Authorization Act, "investment in basic research has remained stagnant and is too focused on near-term demands." In addition, certain industries key to America's economic growth, such as computer science, have been hit especially hard as federal basic research funding increasingly favors the life sciences at the expense of most physical sciences, mathematics, and engineering—the kind of research that, for example, produced key medical devices and procedures such as endoscopic surgery, "smart" pacemakers, kidney dialysis, and MRIs.

jects based upon the cumulative nature of innovation and the potential for others to build upon the proposed research. Another will describe how government might spur innovation by providing large inducement prizes for specific achievements in science and technology, similar to the recently awarded X-Prize for the first non-government human spaceflight.⁵⁰

In addition to renewing our commitment to basic research funding, the government has a critical role to play in investing in research and promising new technologies to enable America to achieve energy independence. Rising energy prices and our reliance on tumultuous, often hostile, regions of the world for energy supplies have demonstrated how central energy policy is to both economic growth and national security. For that reason, The Hamilton Project plans to explore promising new ideas to improve our nation's energy situation, for example the possibility of creating a new federal research agency—similar to DARPA, founded in response to the Soviet launching of Sputnik—to generate radical new alternatives to carbon-based energy sources.

Aside from scientific research, the nation must also renew its commitment to a modern physical infrastructure, which is essential to economic growth. Our infrastructure investments have often been poorly designed, by focusing too much on construction and not enough on maintenance; by building too many “bridges to nowhere”

50. Such prizes, which have a long and storied history, allow the government to specify research ends without specifying research means, and thereby encourage greater creativity.

and not enough projects in congested areas to increase capacity; and by putting too much emphasis on free access and not enough on market-based incentives, such as tolls that vary according to time of day or traffic levels. In many areas, a higher level of investment is also now required. Seventy-five percent of school buildings fail to meet the basic needs of children. Air traffic has increased by roughly 35 percent in the last fifteen years while airport capacity has increased by just 1 percent. And \$11 billion more per year is needed to replace or rehabilitate aging drinking-water facilities.⁵¹ The Hamilton Project will be exploring many aspects of infrastructure policy, including new approaches to public infrastructure management and more effective pricing strategies.

III. Savings and Insurance

The more security that people can achieve in their personal finances—through both savings and social insurance—the more confidence they can place in the future, making them more likely to seize opportunities and bounce back from adverse events. As emphasized in the Project’s principles, economic security and economic growth can be mutually reinforcing. Unfortunately, family incomes are now more volatile, rising and falling more sharply than they did several decades ago, even as the economy as a whole has become more stable.⁵² For example, Jacob Hacker of Yale University has

51. American Society of Civil Engineers, *Report Card for America’s Infrastructure: 2003 Progress Report* (Reston, Va.: American Society of Civil Engineers, 2003).

52. See Karen E. Dynan, Douglas W. Elmendorf, and Daniel E. Sichel, “Can Financial Innovation Help to Explain the Reduced Volatility of Economic Activity?” (Working

shown that the probability of a 20 percent decline in family income over a two-year period has more than doubled, from about 12 percent at the beginning of the 1970s to 25 percent now. To maintain the vitality of our economy, we must adopt policies that will provide American families with adequate economic security.

Apart from income shocks, the greatest financial threat to American families is the cost of health care and the risk that they will be bankrupted by catastrophic health events. Such fears reflect an underlying reality: even those with health insurance often face significant risks of substantial out-of-pocket costs. One recent study found that half of personal bankruptcy cases were linked to medical causes, and among those cases, out-of-pocket medical costs averaged almost \$12,000.⁵³

The more security that people can achieve in their personal finances, the more likely they are to seize economic opportunities and bounce back from adverse events.

High health-care costs also cause firms to lower other forms of labor compensation, reducing the take-home pay that families could use to meet other needs.

The Hamilton Project plans to devote significant

Paper 2005-54, Washington, D.C.: Federal Reserve Board, 2005).

53. David U. Himmelstein, Elizabeth Warren, Deborah Thorne, and Steffie Woolhandler, "MarketWatch: Illness and Injury as Contributors to Bankruptcy," *Health Affairs*, February 2, 2005, <http://www.healthaffairs.org/>.

attention in 2006 to developing health-care proposals to deliver higher quality health care with less financial risk for families. The Project is examining both large structural changes, such as innovative models to deliver preventive care, and more incremental reforms, such as expanding Medicare's use of pay-for-performance to generate improvements in quality outcomes and expand adoption of information technology in the health sector. Given the scale of the nation's health-care challenges, The Hamilton Project believes all options must be on the table.

Another economic risk that American families increasingly face in the new global economy is job dislocation. Not only do families with a displaced worker face a period of unemployment, but many also suffer even greater long-term economic harm because the worker is forced to take a new job at a lower wage. To better cushion the economic shock of job dislocation, The Hamilton Project will advance a proposal to assist laid-off workers who accept new jobs at lower salaries.⁵⁴

Once workers leave the workforce, they face economic risks in retirement. Unfortunately, too many Americans have inadequate savings to provide for a secure and comfortable retirement. The Hamilton Project will thus advance proposals to increase retirement security. For example, based on evidence that workers save more if they are automatically enrolled in a 401(k) plan as opposed to having

54. Jeffrey R. Kling, "Temporary Earnings Replacement Accounts and Wage-Loss Insurance" (Washington, D.C.: The Hamilton Project, forthcoming).

to sign up for it, the Project will put forward a proposal requiring firms to enroll workers as a default in a retirement saving plan unless the workers choose to opt out.⁵⁵

IV. Effective Government

Government has a targeted but essential role in creating the conditions for growth in which all Americans can share. To fulfill that responsibility in times of sweeping change, government must abandon old, inefficient approaches in order to deliver concrete results, focus resources and energy, and live within its means. Private markets and effective government complement each other in delivering strong, ongoing economic growth.

The Hamilton Project will put forward a variety of proposals to realign the government's activities with our most pressing needs. As one example, the federal government owns facilities and land worth more than \$300 billion. The Government Accounting Office concluded that "much of this vast and valuable asset portfolio presents significant management challenges and reflects an infrastructure based on the business model and technological environment of the

55. William G. Gale, Jonathan Gruber, and Peter R. Orszag, "Improving Opportunities and Incentives for Saving by Middle-and Low-Income Households" (White Paper 2006-02, Washington, D.C.: The Hamilton Project, 2006). In addition, evidence suggests that tax incentives for contributions linked to marginal tax rates do not work well: they tend to induce substantial asset shifting rather than additional saving and are not well targeted to those who most need to save more. The proposal therefore replaces the current system of providing tax deductions for retirement saving with a universal government program that matches a household's retirement saving at a 30 percent rate.

1950s. Many assets are no longer effectively aligned with, or responsive to, agencies' changing missions and are therefore no longer needed.⁵⁶ The Project will explore ways of improving the government's asset management, including by selling assets no longer needed or by auctioning off assets that had previously been given away at no charge.

As another example, many other nations, including Sweden, New Zealand, and Germany, have increased competition in their postal delivery systems to facilitate productivity-increasing changes. In the United States, the U.S. Postal Service represents a third of civilian federal employment, and significant concerns have been raised about its efficiency and its future prospects.⁵⁷ The Project will explore options to make the Postal Service more efficient while maintaining a firm commitment to universal service.

The Project will also explore ways of measuring efficiency within the government. Such measurement should help to improve transparency and ultimately increase productivity. The Hamilton Project will thus advance a proposal, prepared by leading management consultancy McKinsey & Company, that draws upon experience in the private sector and in other government settings to design a new system of productivity measurement for parts of the federal government.

56. Government Accounting Office, *High-Risk Series: Federal Real Property* (Washington, D.C.: Government Accounting Office, 2003), 2.

57. President's Commission on the United States Postal Service, *Embracing the Future: Making the Tough Choices to Preserve Universal Mail Service*, (Washington, D.C.: President's Commission on the United States Postal Service, Department of the Treasury, 2003).

The government must seek efficiency not only in its own operations, but also in the regulations it uses to guide private firms. The government should intervene where markets fail, but must do so taking risk and reward calculations into account. As Supreme Court Justice Stephen Breyer has emphasized, government risk management must consider several factors: “ On the one hand, to what extent will the regulation actually diminish the specific risk at issue? On the other hand, to what extent will regulation itself produce *different* risks? . . . To what extent will the regulation deprive users of benefits the substance now brings? To what extent will it impose added costs? ”⁵⁸ More broadly, the government’s regulatory objective should not be to eliminate all risk of one type or another, but rather to balance risks. Consistent with this objective, the Project will explore potential reforms to the tort system.

Finally, while seeking to make government more efficient, the nation must be willing to provide sufficient revenue to finance the functions demanded of government. Many of the proposals put forward by the Project are budget-neutral: they reallocate existing resources to better uses. Some, however, involve new government expenditures, and the Project is committed to avoiding an exacerbation of an already dangerous fiscal imbalance. The Project will therefore put forward ways to reduce spending and raise revenue to pay for its proposals. In doing so, the Project will also aim to develop innovative ways to reduce the tax system’s burden. One way, for example, would be

58. Stephen Breyer, *Breaking the Vicious Circle: Toward Effective Risk Regulation* (Cambridge, Mass.: Harvard University Press, 1993), 10.

through a system of return-free tax filing that is estimated to save up to 500 million hours of taxpayers' time each year.⁵⁹

IV. Conclusion

Today, we are in danger of breaking the quintessential American promise of upward mobility for the next generation, thereby threatening not only America's character but also our future economic progress—at a time when America faces growing challenges to its global economic leadership. To meet these challenges, the nation must be willing to make necessary investments now to reap benefits later. By drawing on the best and most innovative ideas from leading economic thinkers, The Hamilton Project will identify smart, pragmatic policy options, grounded in real-world experience and evidence, to create the conditions for continued opportunity, prosperity, and strong, broad-based economic growth.

59. Austan Goolsbee, "The 'Simple Return': Reducing America's Tax Burden through Return-Free Filing" (Washington, D.C.: The Hamilton Project, forthcoming).

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