

/ -

•

и п п

; " - :

· :

.1

•

. :

()

()



(1)

Science & Technology Planning (S&TP)

Appropriate

Know-Why Technology (AT)

Know-How

Foreign Direct Production Techniques

Research and Investments (FDI)

.(Invention and Innovation) Development (R&D)

(2)

. –

(:



(3)

. (4)

.⁽⁵⁾
, More Static (
More ()

Dynamic

. (6) .

.(7)



Possibilities ()

Abilities

(12) 5

.2

·

:

.

(8)

. (9)

•

(10)

Know-How ⁽¹¹⁾ - Know-Why -

. —

...

-

•

Foreign Direct Import (
Direct Investment (FDI)

.(12)

· (13)

:

. (14) .

(15)



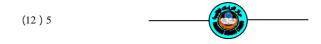
.

.

.(16)

.3

·



(17)

. (18) .

(19)

·

(20)

(12) 5

· _

(21)

.

(22)

·



(1:⁽²³⁾ (3 (5 (7 ((4 ((6 **(**9 **(**10 (8

Labor (L) (24) Capital (K)

(12) 5

. K/L Ratio /

()

(25)

.

⁽²⁶⁾()

•



_

.

_ (27)

•

(28)

. ()

(29)

()

()

Jacob Schmookler

Nathan Rosenberg (30)

() .



Geo-conditional

(32)

. (33)

- -

.

.) ()

()



. (34)

POP

(35)

•

)

.

Mass Production



•

···
·

•

. ... (

·

.

()

•

.**4** :

· () :



(36)

.

(-)

(12) 5

•

. (38)

••

· (39)



.

)

.(

.

.

.

•

.

..

.

)

(40)

. (1-)

•



. (42)

)



.

.

•

.

--

.2

.4

.



.6

() .

.

•

:

·

- -

(44)

.5

•

.(45)



.(46)

•

•

(48)



·

(49)

.

TFP

(50) .

-



Input-Output Approach



·

·

:1-

: : : ...
... : .-1
... : .-2
... : .-3
... : .-4

-2 -3 -4 -5



-6
-7
-7
-8
-8
-9
-9
-1
-1
-2

-4



S&T PLANNING IN ECONOMIC DEVELOPMENT: POSIBLITIES AND RESTRICTIONS

Nawfal Kasim Ali Al-Shahwan

Th.D. Economics, Lecturer Al The Economic Studies Department, Regional Studies Center (RSC), Mosul University, Iraq.

Abstract

The developed and underdevelopment economies being advanced scientifically and technologically by virtue of pointed plan and scientifically headquartered and officially within strategy of every country. In situation of this direction hereby the responsibility of fulfilled scientific and technical catching-up for any economy faced by huge tasks, in front of all: the good encirclement in possibilities of success of this type of planning, the needed possibilities for it, and the methodology of technological planning.

This study aims to "determine and analysis possibilities and blocking restrictions of Science and technology (S&T) planning, the important core in knowledge-based economic development in developing countries and the obstacles which limiting the formation of operations in developing the economy". The hypothesis is "that the operation of right scientific flag of (S&T) plan in the development economic be specified by three main dimensions, which are: The need, the



possibilities, and surpassing of the difficulties. These so called determinants are limited by: Interior factors, external factors, and Geo-interior - external factors". These so many factors are detailed at the conclusion of the study.

The paper found that there my be a need for planning the two types of technology: The more-static and more-dynamic plan, and that the planning limits on the official sectors. This need follow from the need for choice and change technology in all official, unofficial, and semi-official sectors, according to the development stage which the country passes.

Key words: Science and Technology Planning, Economic Development, Possibilities and Restrictions Planning.

Annual RSC Research Plan For The Study Year 2006/2007, Paper No. 9



	. :		.1
.70-65 1985			
2. G. k. Boon,, Technology M	Markets and Tra	nsfer Dynamics, Ch	ı. 2, Sythofi
Noordhoff International I		•	
3. An explanatory example			
Adaptation In Developing			_
Iraq 1968-1984, Ph. D Th		•	•
And Statistics In Warsaw			
	, , , , , ,		_4
	2000		•
http://209.85.165.104/search		.:W.c	
cJ:www.iprcommission.org/j			
Lingual_Documents/Multi_I	Lingual_Exec_Su	mmary/DFID_ES_A	Arabic_AS_
SET.doc		0 34.	
5. Boon, Gerard K., Infor		•	
Trends, Chapter 14, Pape	-		
the Informatics Revolut	•		orth South
Roundtable Islamabad, Pa	akistan, 1988, PP	110-115.	
6. Ibid.			
7. Ibid.			
		. :	3.
.14-11	1989		
		.25-24	.9
			.10
		2000 04 24	•10
		2008-04-24	
http://www.watanews.com/n			
11. For details: Abdul-Kafor	r Hassan Kanan,	Op. Cit., p 11.	
12. Ibid, P. 12			
13. Gerard k. Boon, Infor	mation Technol	ogy: Some Main	Issues and
Trends, Op. Cit., P.117.			
.8		•	. 14
15. Abdul-Kafor Hassan Ka	nan, Op. Cit., p 4	1.	



16. Boon, G. k., Technology Markets and Transfer Dynamics, Loc. Cit.	
(.:)	. 17
.17-13 1996	
 18. Barry Rubenstein, Freeing Enterprises from the Cost and Tim Managing Complex Applications, Adapted from Worldwide and Hosted Application Management Services 2006.2010 Forecast: A Ne Forgotten Model Sees New Life, IDC #201464, Sponsored by Si networking Inc., January 2007. 19. G. k. Boon, Technology Markets and Transfer Dynamics, Loc. Cit. 20. Gerard k. Boon, Information Technology: Some Main Issues Trends, Loc. Cit. 21. Ibid. 	U.S. early inter
22. Gerard K. Boon, Information Technology: Some Main Issues	and
Trends, Op. Cit.	
23. Nathan Rosenberg, the Direction of Technological choice: Inducen Mechanisms and Focusing Devices, Economic Development and Cult	
Change, 1967	.24
25. G. K. Boon, Economic Choice of Human and Physical Factor Production: An Attempt to Measure the Micro-economic and Ma economic Possibilities of Variation in Factor Proportions of Product (Contributions to Economic Analysis XXXV.), Amsterdam, No Holland Publishing Co., 1964, Pp 318-332. 26. Barry Rubenstein, Op. Cit.	cro- tion,
) :	.27
.12-7 2007 (
28. Charles P. Kindelberger and Bruce Herrick, Economic Developm 3rd ed., International Student Edition, McGraw-Hill, Tokyo, 1977 367.	
29. Boon, G. K. Op. Cit., P. 320.	
30. Jacob Schmookler, Invention and Economic Growth, Harvuniversity press, Cambridge, 1966, P17.	vard
31. Nathan Rosenberg, the Direction of Technological choice: Inducer	nent
Mechanisms and Focusing Devices, Op. Cit.	
.65	.32
33. G. k. Boon, Technology Markets and Transfer Dynamics, Loc. Cit.	



- 34. Ibid.
- 35. Ibid.
- 36. Jacob Schmookler, Invention and Economic Growth, Pp31-34.
- 37. Nathan Rosenberg, Exploring the Black Box: Technology, economics and history, (Chapter 13: Scientific Instrumentation and University Research, In: The Competitiveness of Nations in a Global Knowledge-Based Economy), Cambridge University Press, Cambridge, U.K. 1994, Pp250-263. (AAP Homepage, April 2003).

1999

- 39. Jacob Schmookler, Invention and Economic Growth, Loc. Cit.
- 40. Nathan Rosenberg, Op. Cit.
- 41. Charles P. Kindelberger and Bruce Herrick, OP. Cit. Ch.4 and Ch.5.
- 42. Nathan Rosenberg, Exploring the Black Box: Technology, economics and history, Op. Cit., P120.
- 43. Jacob Schmookler, Op. Cit.
- 44. Gerard K. Boon, Information Technology: Some Main Issues and Trends, Op. Cit.
- 45. Rothwell, R., (SRRU) and W. Zegveld (TNO), Possibilities for Innovations in small and Medium Sized Manufacturing Firm, TNO, The Holland, 1979.
- 46. Pannenborg, A. E. and F. Drakke ,Government, Producement Policies and Industrial Innovations, TNO, The Hague, 1979.
- 47. Gerard K. Boon, Information Technology: Some Main Issues and Trends, Loc. Cit.

.48 () .2006 .49

.2006 24 -20

.50

. .38