**INCENTIVE OR COMPENSATION? GOVERNMENT
SUPPORT FOR PRIVATE INVESTMENTS IN TURKEY**

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Working Paper No. 107
December 2005

Abstract

This paper examines the effectiveness of government support to private investment in Turkey during the period 1980-2000. It does so by first assessing quantitatively the effects of investment incentives on total factor productivity, employment and investment in the manufacturing sector; and second, by conducting a survey of the views of businessmen who received these incentives within the last decade. The paper finds that investment incentives were ineffective in achieving their intended objectives. It concludes that the so-called investment incentives were not employed to promote/guide investments, but instead were used as a compensation for the deficiencies in the investment environment in the country.

ملخص

تناقش هذه الورقة مدى فاعلية المساندة الحكومية للاستثمارات الخاصة في تركيا خلال الفترة الممتدة من ١٩٨٠ و ٢٠٠٠. وتقوم بذلك من خلال تقييم كمي لتأثير حوافز الاستثمار على كل من الإنتاجية الكلية لعوامل الإنتاجTotal Factor Productivity ، والتوظيف والاستثمار في قطاع الصناعة، فضلا عن إجراء استطلاع رأي لعينة من رجال الأعمال الذين حصلوا على هذه الحوافز خلال العقد الماضي. وقد أوضحت الدراسة أن هذه الحوافز لم تحقق أهدافها المرجوة، وخلصت إلى أن حوافز الاستثمار لم تستخدم لتنمية أو توجيه الاستثمارات ولكن كتعويض من الحكومة عن أوجه القصور في مناخ الاستثمار في تركيا.

INTRODUCTION

The history of government support to private investment in Turkey is not a new phenomenon. In fact, legislation concerning such government interventions can be traced back to the Ottoman era, when in 1913 the "Provisory Law on Supporting Industry" was enacted. The weakness of the private sector, coupled with the 1929 world crisis, led Turkey to adopt the *etatist* strategy, i.e. government-led industrialization in the 1930s. Although this strategy lost its initial momentum and consistency, particularly during the 1950s, it remained in effect until 1960.

The adoption of the idea of development planning in the early 1960s systematized economic policy making in Turkey. The planning approach was based on writings of Tinbergen (1964, 1967) and emphasized consistencies at the macro, sectoral and project levels. Since plans were only indicative for the private sector, the desired outcomes could only be achieved if the private decision makers could be encouraged to take actions that are in compliance with the objectives of the plan. Such necessity led Turkish policymakers to focus on incentives to promote economic activity in line with macro and sectoral targets.

The outcome of this new thinking was a rather complex system of incentives to promote economic activity and private investments. Over time, the complexity of the system increased and its coverage expanded. As was stressed by Arslan (2001), Duran (2002) and Togan (2003), these features of the investment incentives made them non-transparent even for those who hope to benefit from them. Despite the disillusionment of the public bodies (reflected in Duran (2002), for example) and strong criticisms at the academic level, as in Togan (2003), concerning the negative effects of such incentives on competition, government support to the private sector continued in the form of investment incentives. The purpose of this paper is to examine the reasons behind the continued practice of investment incentives, in spite of their alleged inefficiency.

1. A BIRD'S EYE VIEW OF DEVELOPMENTS IN THE TURKISH MANUFACTURING INDUSTRY

The Turkish industrial sector was already well-diversified in the mid-1970s (the Herfindahl-Hirschmann Index (HHI) is given in Figure A-1 in the Appendix). However, the HHI indicates that the degree of diversification was almost stable thereafter; fluctuating only within the narrow band of 0.06 and 0.08.

Turkey witnessed a very difficult period in 1970s. The political turmoil that brought the country to the edge of a civil war, coupled with a severe balance of payments crisis triggered by the oil shock, had a devastating effect on the performance of the manufacturing industry. In early 1980s the situation improved as a result of a drastic shift in economic policies, from inward-looking industrialization to export-oriented growth. Turkey launched a comprehensive program to liberalize its foreign trade and financial system, and political stability coupled with policy credibility helped the economy to recover rather quickly. As can be seen from Figure A-2, export and import penetration ratios increased sharply beginning in 1980.

Turkey's reform strategy was based on the classical sequencing approach and in 1990 it liberalized the capital account of its balance of payments after "completing" reforms in the areas of finance and trade. This move was considered premature by many observers who cited the lack of progress in reforming the public sector, which was already giving signals of falling into a debt trap. During the 1990s, the manufacturing industry's performance was less than impressive. In the first half of the decade the severe policy mistakes of the then ruling government led the economy into a crisis (in 1994), and in the second half, Turkey was deeply impacted by the contagion effect of the Russian Crisis.

As can be seen from Table A-1 (in the Appendix), from 1980-2000 the manufacturing industry grew at an average rate of 8.9 percent.[1] During these two decades, the rate of capital accumulation was 7 percent. Employment in manufacturing grew at 4.05 percent for the period as a whole. Although the rate of employment growth did not differ much between the first and second halves of the period, both the rate of value-added growth and the rate of capital accumulation declined after 1991, i.e. after Turkey opened up its capital account.[2]

In terms of productivity, the performance of the economy was far from satisfactory. As shown in Table A-1, labor productivity growth when measured in man hours (per employee) was 6.24 percent (7.20 percent) during 1981-1991, but declined to 3.14 percent (3.43 percent)

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[1] From now on, the paper focuses on the post-1980 period (i.e. after liberalization reforms). Besides the logical difficulties of comparing two qualitatively different periods, where economic policies as well as the behavior of economic agents considerably differ, the data for 1970s seem much less reliable than those that are available for subsequent years. Although our findings are qualitatively in line with our expectations, the numerical values calculated for 1970s were not comforting. Our guess is that, due to the severe foreign exchange constraint that the country was facing, especially in the second half of the 1970s, the use of the official exchange rate in calculating the investment deflator and the amount of investment may have been distortionary.

[2] Turkey opened up its capital account in 1990. However, the effect on the economy was not instantaneous, but with a lag. For the purpose of this paper, the full effect of the liberalization of the capital account is assumed to have been realized in 1992.

during 1992-2000. A similar decline is observed in capital productivity, from 3.52 to -0.09 percent; and in total factor productivity (TFP), from 4.07 to 0.53 percent—when man-hours are used to measure labor input—and from 4.32 to 0.6 percent when the total number of employees is used.

During the period under consideration, investment incentives were used as a tool to influence/guide industry, with continuous revisions in terms of coverage, rates and types of incentives offered. One method was to abolish cash incentives (including preferential credits) and rely increasingly on tax exemption and investment allowances.

2. DID INVESTMENT INCENTIVES PLAY THEIR EXPECTED ROLE AT THE SECTORAL LEVEL?

A typical legislation concerning investment incentives will include almost all the items from the following non-exhaustive list of objectives:

  i)   Increase investment/GDP ratio
  ii)   Increase employment
  iii)   Improve productivity
  iv)   Allocate investments to favored sectors
  v)   Enhance regional development
  vi)   Encourage technological change
  vii)   Increase export capacity
  viii) Improve environmental protection, etc.

Although expressed in the form of a multi-objective decision-making problem, neither the legislation nor the administrative apparatus is designed to deal with the intricacies of such a problem. Moreover, even if this problem can be solved, it is still difficult for private decision makers to distinguish between these objectives and calculate the effects of these incentives, when they face a rather lengthy and complicated legislation.[3]

Nonetheless, in this section we investigate the effects of investment incentives on TFP growth, investment volume, and employment. Data on manufacturing industries are from annual manufacturing industry surveys collected by the State Institute of Statistics. In the analyses below, we only use data for private manufacturing industries that employ 10 or more

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[3] Arslan (2001) and Togan (2003) estimated the rate of subsidy by taking into account the existing legislative structure. Their work clearly demonstrates that it is practically impossible for an entrepreneur to fully integrate incentives into her/his investment-decision framework.

people. While original data are on (ISIC Rev. 2) 29 industries, we had to reduce the number to 16 to achieve data consistency.

TFP is in fact what is known as Solow residuals, that is, the residual value-added growth obtained after correcting for factor accumulation. Solow residuals are measured under standard assumptions of constant returns to scale, unit elasticity of substitution between capital and labor and perfect competition.[4] However, later in the regression analysis we allow a variable, namely price-cost-margin (PCM), calculated as (value added - total wage bill) / (value added + value of inputs), to control for market imperfections. Capital stock data for each industry is obtained using data on sectoral investment and applying perpetual inventory method.

Employment is measured as total persons engaged. Our analysis focuses on the number of jobs created, rather than the number of hours worked. Moreover, while data on total hours worked are also available, in the early years of our sample, data were not collected for small establishments, thus the missing values had to be extrapolated.

Trade variables, export-output ratio and import-penetration rate are calculated for each industry separately. Value added generated by public establishments is for aggregate manufacturing, because the state was not competing with the private sector, but rather supporting it by supplying cheaper inputs. Effective protection rates (EPR) are obtained from Togan (1994, 1997).

Data on incentives are from the State Planning Organization. The investment incentives variable is defined as the total volume of investment certificates to the actual investment volume. This variable stands as a proxy for government's intensity of intention of supplying investment incentives to the sector in question. Therefore, it is assumed that in making its investment decisions, firms can gather information by looking at this ratio concerning government intentions.

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[4] In order to see the relevance of the first two assumptions, the following procedure is followed. First, a variable elasticity of substitution (VES) production function is estimated by using pooled data for the 16 sectors. The coefficients that indicated variability in the elasticity of substitution were found to be statistically insignificant. In the second step, a CES function is estimated using the same data set. The findings indicated that the unit elasticity of substitution hypothesis can not be rejected. On the other hand, although the statistical findings indicated decreasing returns to scale, the numerical value of the scale parameter was very close to one. Therefore, TFP measures are calculated under the assumption of a Cobb-Douglas production function; labor shares, total payments to workers over value added, are Divisia Indices yielding average elasticities of 0.65 and 0.35, for capital and labor, respectively.

Our goal here is to estimate the effects of incentives in the long run. Therefore, we took five-year averages of variables and formed a panel of 16 industries, each with four observations. Each specification is then estimated using the fixed effects model. Major findings are as follows:

a. Total Factor Productivity (TFP) Growth

Table A-2 provides the regression results of TFP growth. First, we have simply regressed TFP growth on initial value of TFP. While the industries that are lagging behind the others might have an advantage to grow faster, endogenous growth models predict just the opposite. The coefficient of initial TFP, as shown in the first column of the table, is negative and significantly different from zero, implying the advantages of backwardness. We then included the aggregate value of TFP growth. This variable could approximate two different effects: the existence of linkages across industries and/or stability of economic environment that favors or disfavors productivity growth. The coefficient on this variable is significantly positive. In the third column, we include price-cost margin and trade-related variables. Market structure seems to be an important factor in productivity growth. Markets with less competition induce higher growth. None of the trade variables seem to have a significant impact on TFP growth.

The fourth regression introduces investment incentives. The coefficient is negative but statistically insignificant. There seems to be no effect from investment incentives on TFP growth. Thus, one important aspect of providing incentives—to enhance productivity growth—is not justified by the data.

We also estimated the regression by including the R&D volume, which is only available for the 1990s, and the results are unchanged. Finally, to control for possible endogeneity of some variables we included lagged values. Once again, the results are robust: only the initial level of TFP, aggregate TFP growth and market structure have significant effects on TFP growth.

b. Employment Growth

A further concern of the investment incentive scheme is to increase employment. To test the effects of incentives on employment, we repeated the previous exercise, this time, for employment growth. The results, presented in Table A-3, are very similar to those of TFP growth. The initial level of employment is significantly negative in all specifications. None of

the other variables seem to have any significant effect on employment growth in our full specification [specification (4)].

The only exception is when we introduce R&D into the regression. Notice that this specification (5) restricts the sample to the 1990s due to lack of R&D data for the 1980s. In this case, aggregate employment growth is positive and significant. Two other variables (PCM and IMPPEN) also become marginally significant (at 90 percent confidence level), implying possible sources of employment growth. Market structure has a positive impact on employment and import penetration reduces the employment level.

Using lagged trade variables and investment incentives instead of contemporaneous averages produces strange results. While aggregate employment growth is still positive, effective protection rate and R&D (at 10 percent significance level) has a negative impact on employment growth. More interestingly, investment incentives now have a negative and significant coefficient. These findings contradict our expectations and it is very difficult to explain them.

c. Investment Growth

Finding that investment incentives have no effect (or even adverse effects) on productivity and employment raises the question of whether the main motive for these incentives was to increase investments. To test this hypothesis, we repeated the exercise with investments as the dependent variable. Two different variables are used to represent the movements in real investments. The first is the change in the real investment ratio and the second is the change in investment-value added ratio. The results are qualitatively similar regardless of the variable we used on the left-hand side of the equation; therefore only the equation that uses the latter as dependent variable will be presented.

As reported in Table A-4, initial investment value-added ratio is negative and significant, as expected. Industries that have already had large investments in the previous period now invest less. Focusing on our favored specification (4), all trade variables are significant and have expected signs. Industries that are protected from foreign trade have a larger investment value-added ratio, as industries that face higher competition from abroad (larger import penetration ratios). On the other hand, industries that have higher export-output ratio invest less. Turning to our main hypothesis, the coefficient of investment incentives is once again significantly negative. Using lagged values only reduces the significance level of

trade variables and the incentive variable becomes insignificant (though it still has the wrong sign).

The above findings point out the insignificant, if not adverse, effects of investment incentives in explaining sectoral investment, employment and TFP growth.

3. How do Businessmen View Investment Incentives? Survey Findings

How does the business community evaluate industrial incentives? In order to get an answer to this question a survey was conducted in the second half of October 2005.[5] The main concern was to get the impressions of those that actually have experience getting incentives for their investments. The questionnaire (consisting of 19 questions) was sent to the local members of the Union of Chambers and Commodity Exchanges of Turkey[6] and was completed only by those businessmen that benefited from investment incentives within the last 10 years. As was expected, most of the responses came from relatively small companies. Of the 2,510 businessmen that responded, 252 received investment incentives within the last decade.[7]

According to survey results, 61 percent of respondents claimed that domestic market concerns played a more important role in investment decisions than incentives. Investment projects that were granted the largest portion of incentives were for enlargement (37.8 percent), followed by complete renewal (25.6 percent), and modernization investments (25.4 percent). A much smaller portion of the incentives were granted for R&D (7.6 percent) and even less for environmental protection (3.6 percent).

According to the survey, 73.3 percent of respondents benefited from value-added tax support, 71.2 percent from investment allowances, 48.3 percent from exemption of taxes, fees and duties, and 47 percent received customs duty exemptions. The share of those who received subsidized credit drops to 21.6 percent and the percentage of those who received other forms of incentives was even lower. Of those surveyed, 44.8 percent think that incentives that reduce investment cost (such as customs duty exceptions) are most important,

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[5] See Deliveli and Ersel (2005) for the details of the survey.

[6] The Union of Chambers and Commodity Exchanges of Turkey (UCCET) has 364 local members, scattered all over Turkey, representing 1.2 million companies.

[7] The forms were distributed in the monthly meeting of the boards of the local chambers. Since the members of the boards of local chambers are democratically elected, the total sample can be considered as random. The low frequency of the responses can be attributed to the dominance of service sector related firms in the total.

34.1 percent place more emphasis on incentives that bear results after the completion of the project (such as investment allowances), and 17.5 percent did not express an opinion.

Respondents were asked to rank five different government motives for offering investment incentives. As shown in Table A-5, the figures[8] indicate that businessmen consider "technological improvement" the most important reason for a government to give investment credits, followed by promoting investment irrespective of its sectoral and regional impacts. Channeling investments to underdeveloped regions is ranked as the third motive. The last two motives, respectively, are sectoral allocation of investments, and "compensation for the negative effects on investments that stem from the difficulties in the supply of public services and/or their high cost."

One interesting aspect of this question is the inclusion of the last motive, which was not discussed at all in the public domain. Nevertheless, it was not discarded "as irrelevant." In fact, it is considered a reasonable secondary cause for investment incentives.

A major objective of the survey was to get a feeling about the role incentives play in business decision making. For this purpose, those surveyed were invited to respond to a question referring to a counterfactual: would you change your decision to invest (choice of technique, choice of location) if such an incentive was not offered? The distribution of the responses is given in Table A-6. Despite the difficulties inherent in interpreting the answers to a question that involves counterfactuals, the large differences between "yes" and "no" indicate that incentives seem to play a much more minor role in shaping investment decisions than the designers assumed.[9]

In line with the previous questions, the survey participants were also asked whether they would reconsider their investment locations in light of the very recent law that expanded the definition of "regions with special priority to development." In contrast to the government's

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[8] The figures can be formulated in various ways. A very simple way of doing it is by calculating the following ratio:

$$\eta_j = \sum_{i=1}^{3} a_{ij} \bigg/ \sum_{i=3}^{5} a_{ij} \ for \ all \ j.$$

It can be seen that the value of the ratio is 2.34 for technological improvement, 1.55 for regional development, 1.33 for investment growth, 1.26 for sectoral development and 1.19 for compensation.

[9] The equality of the second and third rows is a pure coincidence.

high hopes, but consistent with their revealed behavior in the previous set of questions, 64 percent stated that they would not revise their choice of location.

The findings of this survey are not sufficient to claim that investment incentives have no effect on business decisions. However, when coupled with the supporting statistical findings of the previous section, they may raise some questions as to the efficiency and desirability of incentives.

4. CONCLUSION: WHY DO GOVERNMENTS CONTINUE TO OFFER INVESTMENT INCENTIVES?

Both the econometric findings of the paper and the results obtained from the October 2005 survey indicate that investment incentives, as they are, can hardly be considered efficient tools to influence the level of investment and its sectoral allocation or to promote efficiency growth.[10] Such a negative conclusion is not surprising given the general perception of investment incentives in Turkey. In fact, the incentive problem has always been a hot topic in the media and bureaucratic circles, but amazingly less so at the academic level. Nevertheless, with the exception of Togan's (2003) well-structured critique of investment incentives, the focus seems to be on the implementation side of the issue and not the incentive concept itself.

What is puzzling is the behavior of political decision makers and the business community. Despite the headache incentives have created and their apparent inefficiency, no government has ever attempted to introduce a radical change to the system and the business community has never expressed such a demand.

In fact, the only visible trend in investment incentives is the shift towards using tax reductions and investment allowances from cash supports. However, it can hardly be considered a deliberate choice on efficiency grounds. Instead, it is one of the reflections of the fiscal crisis of the state in the 1990s. It should also be noted that it is quite difficult to quantify such incentives. They are not accounted for as public expenditures but as taxes foregone, which is difficult to estimate even for their beneficiaries.

In light of these issues, it may be more rewarding to look at the political economy side of the problem. For this purpose, the following conjecture is proposed: Suppose the

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[10] Two of our commentators, independently, drew attention to the fact that almost one-third of the businessmen indicated that their decisions, one way or another, were influenced by the availability of investment incentives. It is obvious that such a score can hardly be comforting for a policymaker, as two-thirds of the incentives were wasted. However, this criticism calls for further research at the micro level to understand the reasons behind the different responses.

performance of the economy fails to keep it on a warranted growth path (say, in the sense of Harrod), due to constraints the existing economic environment is imposing on business decisions. The government would face the dilemma of either bearing the political and financial costs of launching a major reform program or accepting political responsibility for an economic failure. While the latter is never a choice for the incumbent, the former route may also be too risky. In such an environment, governments may opt to offer "incentives" in order to compensate for at least part of the external costs the firms are facing. In other words, incentives in this framework are not for guiding businesses but for convincing them to implement their own plans; they are offered as side payments. If that is so, then the list of objectives attached to incentives and conditions for eligibility lose their importance, and as witnessed in Turkey, may be subject to frequent changes. If this is the case, then the inefficiency of incentive variables should not be a surprise.

APPENDIX

I. Definition of Sub-Sectors

A311+312+313	Food & Beverage
A314	Tobacco
A321+322	Textiles & Apparel
A323+324	Leather
A331+332	Wood & Furniture
A341+342	Paper & Printing
A351+352	Chemicals
A354	Misc. Products of Petroleum
A355	Rubber
A361+362+369	Pottery, Glass & Minerals
A371+372	Iron & Steel and Non-ferr. Metals
A381	Fabricated Metal
A382	Machinery
A383	Electrical Machinery
A384	Motor Vehicles
A390+356+385	Plastics nec., Instruments and Others

Figure A-1. Herfindahl/Hirschmann Index
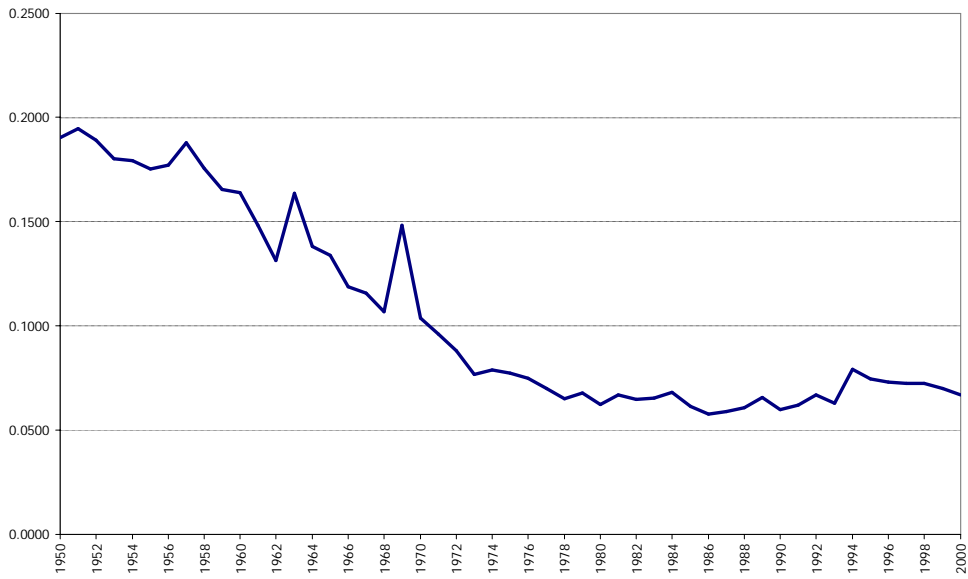
Source: Authors' calculations.

Figure A-2. Export-Output Ratio and Import Penetration

Source: Authors' calculations.

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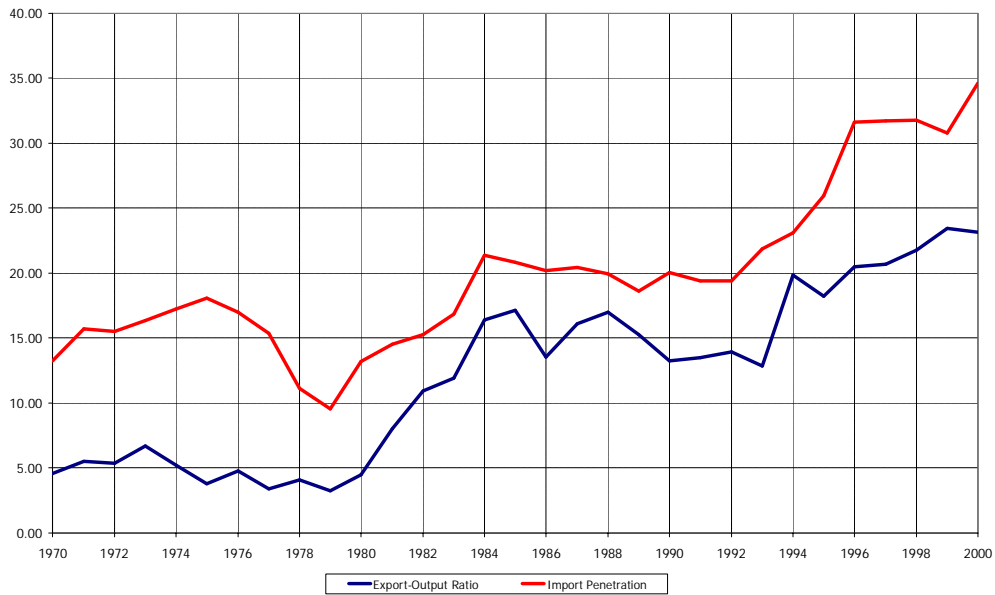
Table A-1. Manufacturing Industry Developments, 1980-2000 (Rate of Change %)

	1981-2000	1981-1991	1992-2000
Value Added	8.90	10.24	7.26
Capital	7.00	6.72	7.35
Labor (MH)	4.05	3.99	4.12
Labor (PE)	3.39	3.03	3.83
Labor Productivity (MH)	4.84	6.24	3.14
Labor Productivity (PE)	5.51	7.20	3.43
Capital Productivity	1.89	3.52	-0.09
Total Factor Productivity (MH)	2.48	4.07	0.53
Total Factor Productivity (PE)	2.65	4.32	0.60

Source: Authors' calculations.

Notes: PE: Persons Employed; MH: Man Hour.

Table A-2. TFP Growth

	Dependent Variable: TFP Growth							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Initial TFP	-0.1325	-0.1184	-0.1539	-0.1573	-0.1515	-0.1520	-0.1097	-0.0807
	(0.0233)***	(0.0229)***	(0.0286)***	(0.0288)***	(0.0704)	(0.0272)***	(0.0521)**	(0.0747)
Agg. TFP Growth		0.6919	0.7889	0.8501	1.2792	0.6420	1.0843	-0.4112
		(0.2820)**	(0.2903)***	(0.2974)***	(0.9961)	(0.2936)**	(0.5294)*	(0.8193)
PCM			0.0037	0.0037	0.0140	0.0027	0.0003	0.0175
			(0.0018)	(0.0018)**	(0.0052)**	(0.0019)	(0.0025)	(0.0063)**
R&D					-0.8595			2.7359
					(1.7647)			(3.0152)
EPR			-0.0000	-0.0000	0.0001	-0.0000	-0.0000	0.0000
			(0.0000)	(0.0000)	(0.0001)	(0.0000)	(0.0000)	(0.0001)
EXPOUT			0.0020	0.0013	0.0017			
			(0.0023)	(0.0024)	(0.0082)			
IMPPEN			0.0008	0.0012	0.0070			
			(0.0018)	(0.0018)	(0.0052)			
Incentives				-0.0022	-0.0043			
				(0.0023)	(0.0039)			
Lagged EXPOUT						0.0005	-0.0021	-0.0027
						(0.0017)	(0.0032)	(0.0064)
Lagged IMPPEN						0.0021	0.0054	0.0006
						(0.0019)	(0.0030)*	(0.0074)
Lag. Incentives							-0.0032	0.0046
							(0.0030)	(0.0062)
R-squared	0.40795	0.47648	0.56144	0.57118	0.85607	0.56164	0.55260	0.77933

Standard errors in parentheses. Fixed effect terms are not reported.

* Significant at 10 percent; *** significant at 5* percent; **** significant at 1 percent.*

Table A-3. Employment Growth

	Dependent Variable: Employment Growth							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Ln Init. Empl.	-0.6115	-0.6542	-0.7890	-0.8105	-1.6419	-0.7080	-1.0997	-1.8247
	(0.1036)***	(0.1540)***	(0.1760)***	(0.1799)***	(0.2531)***	(0.1618)***	(0.2354)***	(0.2484)***
Agg. Empl. Gr.		-0.1984	-0.0101	-0.1055	4.5612	0.6235	1.7735	3.4745
		(0.5253)	(0.6558)	(0.6745)	(1.6330)**	(0.7326)	(1.1332)	(1.0706)**
PCM			0.0058	0.0055	0.0273	0.0059	0.0132	0.0147
			(0.0074)	(0.0075)	(0.0137)*	(0.0075)	(0.0114)	(0.0121)
R&D					-2.1093			-14.3899
					(5.3569)			(6.7893)
EPR			-0.0000	-0.0000	-0.0002	-0.0000	-0.0001	-0.0004
			(0.0000)	(0.0000)	(0.0002)	(0.0000)	(0.0000)	(0.0002)**
EXPOUT			0.0066	0.0047	0.0464			
			(0.0071)	(0.0076)	(0.0251)			
IMPPEN			0.0040	0.0047	-0.0339			
			(0.0056)	(0.0058)	(0.0176)*			
Incentives				-0.0051	0.0155			
				(0.0074)	(0.0119)			
Lagged EXPOUT						0.0066	-0.0044	0.0009
						(0.0056)	(0.0104)	(0.0178)
Lagged IMPPEN						0.0052	0.0104	0.0163
						(0.0056)	(0.0079)	(0.0159)
Lag. Incentives							-0.0086	-0.0397
							(0.0096)	(0.0138)**
R-squared	0.42578	0.42755	0.48376	0.48962	0.91806	0.47546	0.50575	0.93817

Standard errors in parentheses. Fixed effect terms are not reported.

* Significant at 10 percent; ** significant at 5 percent; *** significant at 1 percent.

Table A-4. Investment Growth

Dependent Variable: Change in Investment Value-Added Ratio

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Init. Volume	-0.6320	-0.6195	-0.6016	-0.5894	-1.3870	-0.6348	-0.8122	-1.4962
	(0.0999)***	(0.0936)***	(0.0927)***	(0.0879)***	(0.4256)**	(0.0893)***	(0.1238)***	(0.3032)***
Ch. in Agg. Vol.		0.5226	0.4059	0.3248	0.3963	0.4690	0.6587	-0.0109
		(0.1884)***	(0.2345)*	(0.2245)	(0.6131)	(0.2109)**	(0.2231)***	(0.3293)
PCM			0.0117	0.0125	-0.0212	0.0118	0.0305	-0.0417
			(0.0107)	(0.0101)	(0.0308)	(0.0110)	(0.0127)**	(0.0294)
R&D					-3.4595			-14.4778
					(10.5230)			(16.0467)
EPR			0.000031	0.000016	0.0005	0.00003	0.0001	0.0003
			(0.0000)*	(0.0000)*	(0.0004)*	(0.0000)*	(0.0000)	(0.0003)
EXPOUT			-0.0141	-0.0249	0.0105			
			(0.0131)	(0.0131)*	(0.0442)			
IMPPEN			0.0163	0.0211	-0.0229			
			(0.0102)	(0.0098)**	(0.0378)			
Incentives				-0.0306	-0.0590			
				(0.0126)**	(0.0266)*			
Lagged EXPOUT						-0.0151	-0.0099	-0.0495
						(0.0093)	(0.0130)	(0.0288)
Lagged IMPPEN						0.0252	0.0261	0.0937
						(0.0096)**	(0.0104)**	(0.0348)**
Lag. Incentives							0.0180	-0.0147
							(0.0124)	(0.0325)
R-squared	0.46002	0.53737	0.60850	0.65747	0.85381	0.64597	0.75567	0.88055

Standard errors in parentheses. Fixed effect terms are not reported.

* Significant at 10 percent; ** significant at 5 percent; *** significant at 1 percent.

Table A-5. Ordering Different Motives of the Government for Offering Incentives to Investments (% distribution)

Ranking	Investment Growth	Sectoral Development	Regional Development	Compensation for the Inefficiencies in Public Services	Technological Improvement
1	7.2	5.1	6.2	4.8	8.4
2	3.0	4.2	4.5	4.4	4.5
3	3.0	4.3	4.5	2.8	3.5
4	2.4	2.6	2.8	3.9	2.3
5	4.5	3.9	2.6	3.3	1.2

Table A-6. Investments Even if the Incentives Were Not Offered? (% distribution)

"Would you stick to your investment decision even if the incentives were not offered?"

	Yes	No	No Answer
Decision to Invest	63.5	32.5	4.0
Choice of Technology	77.0	18.3	4.7
Choice of Location	77.0	18.3	4.7

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