

# The Dynamic of Medium Scale Enterprises<sup>1</sup>

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*Kebijakan industri selama ini sudah bias pada industri besar (BEs) dan industri kecil (SEs), sehingga industri menengah (MEs) menjadi 'terabaikan' sehingga mengakibatkan kurang berkembang dan menghasilkan fenomena 'Missing of the Middle (MOM)'. Penelitian ini bertujuan untuk melakukan analisis terhadap: (1) dinamika MEs dan faktor-faktor yang mempengaruhinya, (2) keberadaan fenomena MOM dalam struktur industri, dan (3) sumber-sumber pertumbuhan MEs.*

*Hasil penelitian ini menunjukkan bahwa hanya sekitar 10 persen industri yang mengalami dinamika yakni mengalami peningkatan dan/atau penurunan skala usahanya. Dinamika pada I menunjukkan bahwa MEs yang mengalami penurunan skala menjadi SEs lebih banyak daripada yang mengalami kenaikan skala menjadi BEs, kecuali pada kode ISIC 33 (kayu dan produk dari kayu). Industri menengah di sektor pertanian dan yang berorientasi ekspor juga menunjukkan kondisi dinamika yang lebih tinggi.*

*Hasil analisis dengan menggunakan metode Multinomial Logit Regression (MLR) menunjukkan bahwa faktor-faktor internal, kecuali produktivitas tenaga kerja, dan faktor-faktor eksternal berpengaruh terhadap dinamika MEs untuk meningkatkan statusnya menjadi BEs. Meskipun demikian, faktor eksternal beban pajak tidak menjadi penghambat dinamika MEs untuk meningkat menjadi BEs. Selain itu karena MEs pada umumnya menggunakan modal sendiri, maka besaran suku bunga bank tidak mempengaruhi dinamikanya untuk meningkat menjadi BEs.*

Keywords: Dinamika industri menengah, fenomena missing of the middle

## Introduction

### • Background

Industrial sector has been long known as the most important sector in economic structure of a nation, either in developing countries as well as in developed countries (Knack and Keefer, 1995). The growth of industrial sector became one of the most important indicator for economic development. Many development theories, from the classic ones of Adam Smith<sup>3</sup>, R. Malthus dan David Ricardo, through the modern ones as W.W. Rostow and Simon Kuznets, use it as a proxy for advancement in economic development.

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<sup>3</sup> According to Adam Smith the stages of growth firstly was started from hunting, shifting cultivation, farming, trading and industrialization. From his famous book about *The Stages of Economic Growth*, W.W. Rostow stated that economic development followed these progress: traditional community, starting condition for take-off, take-off, maturity and mass consumption (Auty, 1995; Chenery and Syrquin, 1997).

The stages of development than mostly described as the existing shift from the agricultural role to industrial role (Meier, 1995). According to UNCTAD (1997): A developing country, in an open economy context, industrializes and goes through industrial upgrading, step by step, by capitalizing on the learning opportunities made available through its external relation with the more advanced world.

In the end of oil boom period, the role and share of industry in Indonesian economic structure was more higher and higher (Dhanani, 2000). Table 1 shows the contribution of the most important sector, e.g. industry, agriculture and minning to PDB in 1996, 1999 and 2002.

The table show that industrial sectors contribution on PDB increased from 1996 to 2002. In 1999 the contribution of industry was 25 %, whilst in 2002 became 30.7%. In that same period, the contribution of agriculture dropped from 19.5% to 15.7%. The industrial growth in Asian

countries even created the Asian Miracle with the leaders of the new industrialized countries/NICs, such as Taiwan, South Korea, Singapura and Hongkong (Hulten dan Srinivasan, 1999; Stiglitz dan Yusuf, 2001; Nam, 2002). Those industrial changes lead to the changing or reshaping of the industrial structure fro traditional to modern one (Worldbank, 1998; Ozawa, 2001). Those changes had called the NICs as the Asian Tigers (Nam, 2002).

Beside of the changing in its industrial structure, the other important factor to realize those changing was the industrial scale (Hayashi, 2004). Beck, *et.al.*, (2002) showed an example that there is a strong correlation between firm size and productivity. Understanding the industrial structure would be unfinished without te study on its form size because 'size is matter' (Audretsch dan Elston, 2000; CERFE, 1999). This paper will showed and analyse the dynamics of medium industry and its potensial for economic development.

**Table 1**  
**Contribution Three Main Sector to GDP 1996, 1999 dan 2002**

Sector	1996		1999		2002	
	Total (million rp.)	(%)	Total (million rp.)	(%)	Total (million rp.)	(%)
Agriculture	88 791.8	16.7	216 913.6	19.5	297 317.0	15.7
Mining	46 088.1	8.7	109 974.1	9.9	173 624.0	9.1
Industry	136 425.9	25.6	287 702.7	25.9	582 136.0	30.7
PDB	532 568.0	100.0	1 109 979.5	100.0	1 897 800.0	100.0
PDB Non-Oil	490 255.3	92.1	1 003 590.7	90.4	1 721 590.4	90.7

Source: Statistic of Indonesia, CBS (1996-2000)

#### • Policy Bias on Big and Small Enterprises

Good industrial structure is that can support its every scales to take the opportunity to growth equally. Unfortunately, the industrial development policy were biased on certain scales of the industrial scales. The attention mostly placed for small enterprises (APEC, 2002), because the small scales should be help to grow and can't be grow by themself (Audretsch, 2001), and to the big ones because the big can be used as the engine of industrial, and of course, economic growth. Under these

biased policy, the medium scales were left behind and struggle to overcome their growth mostly by their own effort.

The biased policy to big enterprises (BE) can be seen from so many policy that give many priority and easiness, such as business permit and financial support. Even the big ones can proposed tax holiday for their investment. On the other side, under the assumptions that small enterprises (SE) still weak and needed a lot of help to survive, many policy and support program were designed to help SE (Berry dan Levy, 1999). Table 2 below, that recap each policy focuses for every industrial scale, show that those policies really had biased on BE and SE.

Economic crisis that hit Indonesian economy in 1997/1998 had

shocked every policy maker that, as an economic foundation, BE were very fragile and small and medium enterprises (SMEs) had more strengths and viabilities for overcoming the crisis (Hill, 2001; Sato, 2000). Mody (1999) even stated that indusreial policies after crisis should be re-orientated outward or export orientation maximalize internal competitive advantages (new internal capabilities).

The existency of MEs, in some situation were grouped with SE, became SMEs, but in other situation were grouped with BE. So the existence of MEs somehow were 'missed' and nobody cares about MEs (Siahaan, 2000; Snaith and Walker, 2002b). The 'missing attention' of MEs can be described as follow:

**Table 2**  
**Summarizing of Industrial Policy Focuses in Indomesia**

Policy Aspects	Scale of Enterprises		
	BE	MEs	SE
<b>Objecives:</b>	1. Engine of economic growth 2. Increase Nat Income ( <i>outward-looking</i> ) 3. Transfer of technology 4. Fundamental for great leap	1. Not specyified 2. Together with SE become SMEs 3. Data combine with medium and large enterprises	1. Labor absorbment 2. Investasi kecil 3. Maximize use of local input 4. Fullfilling local needs
<b>Results:</b>	good direction and subsidized	No direction and no help	good direction and subsidized

Source: Tambunan (2003).

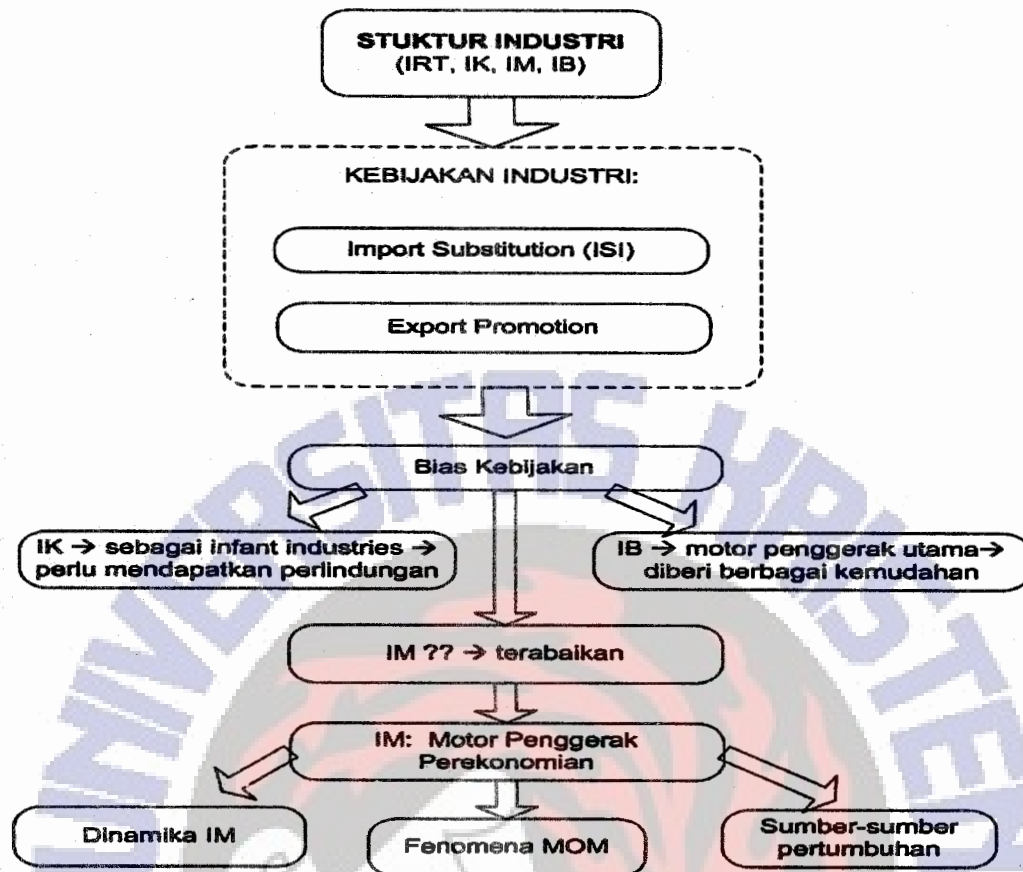


Figure 1  
The Missing of Medium Enterprises (MOM)

• Research Problems

Those different attention caused the dualistik condition of industrial structure and creating a 'missing of the middle (MOM)' phenomenon (Berry and Levy, 1999). Because of that, MEs that actually can't play their more important role and become neglected and lefted behind. So some research question arised:

1. How actually MEs conditions in Indonesia.
2. How about MEs dynamics conditions.
3. What kind of internal and external factors that effected to MEs conditions.
4. Are there any differenciacies of MEs dynamics conditions for any different type of MEs.

Methodology

This research use medium and big industrial data that collected by CBS from 1996 to 2000. There were almost 23.000 enterprises that continuously monitored each year, under the Medium and Big Industrial Survey Program. The data than re-categorized to become small, medium and big classification (Hashemi, 2000). The analyses used descriptive statistics while to evaluate the impact of internal and external factors, Multinomial Logistic Regression (MLR) model ere used (Greene, 2000; Abe, *et.al.*, 2002). According to the literatures, some internal factors that hypotically effected MEs dynamics were year of busines (year), total income (income), output and productivity, while the external factors were tax burden and interest rathe (Levy, 1991; Haarhoff, 2002;

Hoverstadt and Bowling, 2002; Fan, *et.al.*, 2004).

## Results and Discussions

### • The Dynamics of Medium Size and the Missing of The Middle Phenomenon

According to the main purpose of this research, that is for analysing the dynamics of medium size enterprises, the sample of industries firstly was reclassified to three sizes, that is small, medium and large according to the number of employee of Tambunan *et.al.* (2002). The next step was to identify every industries that still exist from 1996 to 2000 (CBS, 1996-2000) and traced every industries status.

The result showed that generally, only 10 percent of industries were dynamics, that is up-scale or down-scale, compare to 90 percent that not dynamics, that is still in their previous scale. From those dynamic industries, around 4 percent increase their scale, from small to medium and from medium to big enterprises, while around 6 percent were downscaling, from big to medium and from medium to small enterprises. The highest number of up-scaling was from 1998 to 1999, that was 4.6 percent, and the highest number of down-scaling was from 1997 to 1998, that was 6,8 percent.

**Table 3**  
**Dynamics Conditions of Enterprises in 1996-2000**

DYN*)	Status in Previous Year	Number (unit)				Number (%)			
		1996 - 1997	1997 - 1998	1998 - 1999	1999 - 2000	1996-1997	1997-1998	1998-1999	1999-2000
UP	Medium	276	298	352	312	1.3	1.5	1.7	1.5
	Small	535	510	579	553	2.6	2.6	2.8	2.6
	Total UP	811	808	931	865	3.9	4.1	4.6	4.1
DOWN	Big	430	563	349	314	2.1	2.9	1.7	1.5
	Medium	599	776	449	401	2.9	3.9	2.2	1.9
	Total Down	1 029	1 339	798	715	5.0	6.8	3.9	3.4
SMEsILAR	Big	5 889	5 730	5 986	6 195	28.7	29.0	29.4	29.6
	Medium	2 635	2 339	2 647	2 799	12.8	11.9	13.0	13.4
	Small	10 168	9 521	9 990	10 347	49.5	48.2	49.1	49.5
	Total SMEs	18 692	17 590	18 623	19 341	91.0	89.1	91.5	92.4
	Total DYN	20 532	19 737	20 352	20 921	100.0	100.0	100.0	100.0
	"Missing"	2465	2 648	1 071	1 149				
	(%)	10.7	11.8	5.0	5.2				
	Total	22 997	22 385	21 423	22 070				

Source: Statistic of Indonesia, CBS (1996-2000)

\*)DYN = dynamics, SMEs= similar status (not dynamics)

The table also showed that the number of up-scaling enterprise from small to medium was higher than from medium to big, that were 2,7 percent dynamics' than medium enterprises (MEs). On the other hand, the number of down-scaling enterprises from big to medium was almost similar with down-scaling from medium to small enterprises, that was about 2 percent. So, for down-scaling dynamics, the medium enterprises almost similar with big enterprises (BE).

From the next table it can be showed that the figures of dynamics enterprises according to its status, it also can be concluded that the medium enterprises (MEs) was the most dynamics enterprises among the SE and BE. The number of dynamics MEs that scaling-up was 8.9 percent, that was higher than SE (5.2 Percent), while the number of scaling-down was 16.1 percent, that was higher than the number of BE that scaling-down (6,5 percent). So, MEs was more dynamics than SE and BE.

**Table 4**  
**Total Scaling-up dan Scaling-down in Each Strata**

DIN	1996 -1997	1997 -1998	1998 -1999	1999 -2000	Rata-rata
<b>SEs</b>					
1. Total (unit)	10.703	10.031	10.569	10.900	10.551
2. Scaling-up (%)	5.0	5.1	5.5	5.1	5.2
3. Scaling-down (%)	-	-	-	-	-
<b>MEs</b>					
1. Total (unit)	3.510	3.413	3.448	3.512	3.471
2. Scaling-up (%)	7.9	8.7	10.2	8.9	8.9
3. Scaling-down (%)	17.1	22.7	13.0	11.4	16.1
<b>BEs</b>					
1. Total (unit)	6.319	6.293	6.335	6.509	6.364
2. Scaling-down (%)	6.8	8.9	5.5	4.8	6.5

Source: Tabulated from Large and Medium Industrial Survey (CBS)

From those around 21.000 enterprises, 16.506 enterprises still exist in 1996 to 2000 period. Separating the period to two separate times, that is 1996-1998 and 1998-2000 we can trace the dynamics of every enterprises. Table below showed some interesting figures.

**Table 5**  
**Dynamic Condition of Industry (1996-2000)**

DIN	1998 - 2000 (unit)			Total		
	Down	Stable	Up	Unit	(%)	
1996-1998 (unit)	Down	53	1.014	450	1.517	9.2
	Stable	529	13.057	490	14.076	85.3
	Up	302	585	26	913	5.5
Total	Unit	884	14.656	966	16.506	100.0
	(%)	5.4	88.8	5.9	100.0	

Source: Tabulated from Large and Medium Industrial Survey(CBS)

In 1996-1998 period, there were only 913 enterprises (5.5%) that scaling-up rather than 1,517 enterprises (9.2%) that scaling-down. These figures were higher than in 1998-2000 period, where the number of scaling-up enterprises were almost similar with the number of scaling-down enterprises, that were 966 (5,9%) and 884 (5,4%) enterprises consecutively. The table also showed that the 1996-1998 periode was worse than 1998-2000 period, because the scalling-down enterprises were higher in 1997-1998 period rather than in 1998-2000 period.

The table also showed that from 1,517 scaling-down enterprises in 1996-1998, there were 1,014 enterprises that constant in 1998-2000, but 450 enterprises could sclaing-up againg and 53 enterprises were scaling-down again. This number relatively higher from the number of enterprises that were experiencing scling-up in 1996-1998 and again in

1998-2000. It was also very interesting when the figures also showed that the number of enterprises successfully rising from scaling down were higher than the number of enterprises that were experincing scaling down condition after their scaling-up..

#### • The 'missing' of Medium Enterprises

The analysis on enterprises dynamic also showed that there were some 'missing' enterprises from a certain year to the next year. Table.6. showed those condition. On the average, there were 1,071 to 2648 enterprises that were not exists (missing) in the year after. The number of highest missing enterprise were in 1996-1997, that were 2,648 enterprises and the lowest was in 1998-1999, These situation showed again that the 1997-1997 periode was the worst in Central Java.

**Table 6**  
**The Number of 'Missing' 1996-2000 (unit)**

Strata	1996-1997	1997-1998	1998-1999	1999-2000	Average
<b>SEs</b>					
1. Total (unit)	12.519	12.019	11.455	11.741	11.934
2. Missing (unit)	1.816	1.988	886	841	1.383
3. Missing (%)	14.5	16.5	7.7	7.2	11.5
<b>MEs</b>					
1. Total (unit)	3.798	3.748	3.538	3.651	3.684
2. Missing (unit)	288	335	90	139	213
3. Missing (%)	7.6	8.9	2.5	3.8	5.7
<b>BEs</b>					
1. Total (unit)	6.680	6.618	6.430	6.678	6.602
2. Missing (unit)	361	325	95	169	238
3. Missing (%)	5.4	4.9	1.5	2.5	3.6
<b>Total</b>					
1. Total (unit)	22.997	22.385	21.423	22.070	22.219
2. Missing (unit)	2.465	2.648	1.071	1.149	1.833
3. Missing (%)	10.7	11.8	5.0	5.2	8.3

Source: Tabulated from Large and Medium Industrial Survey(CBS)

The figures also showed that on the average there were 1.833 units (8,3 %) of industries that were 'missing' every year. It means that those industries did not exist anymore in the next year. From those numbers, 1.383 units (11,5%) were SEs, 213 unit (5,7%) were MEs, and BEs were 238 units (3,6%). From the time of the 'missing', the missing number in the end years before the crisis were around 10

percent higher rather than after the crisis.

• **The Dynamics of Medium Enterprises**

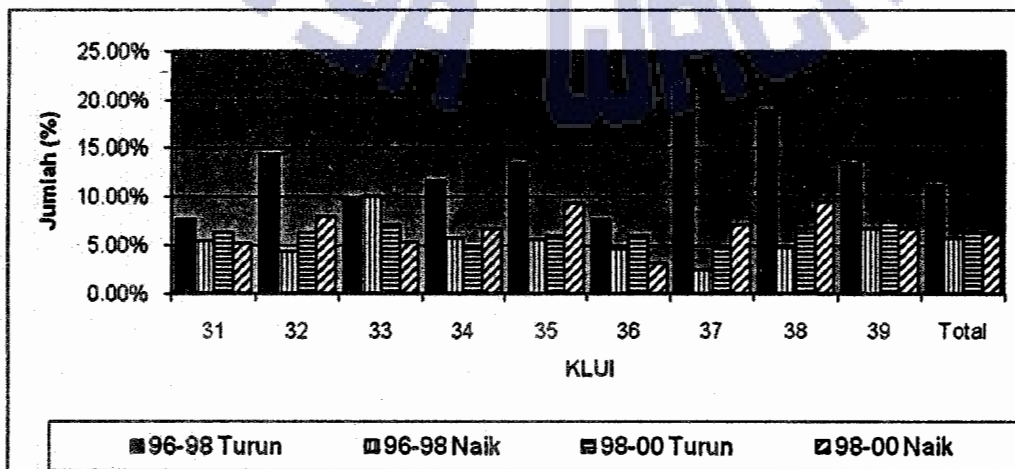
According to the main purpose of this research, the analysis would be focussed on medium enterprises. Table below showed special dynamics for medium enterprises (MEs).

**Table 7**  
**Dynamics Condition of MEs in 1996-2000**

DIN	1996-1997	1997-1998	1998-1999	1999-2000
Number (unit)				
1. Scaling-up	276	298	352	312
2. Scaling-down	599	776	449	401
3. Constant	2 635	2 339	2 647	2 799
Total (unit)	3 510	3 413	3 448	3 512
Number (%)				
1. Scaling-up	7.9	8.7	10.2	8.9
2. Scaling-down	17.1	22.7	13.0	11.4
3. Constant	75.1	68.5	76.8	79.7
Total (%)	100.0	100.0	100.0	100.0

Source: Tabulated from Large and Medium Industrial Survey(CBS)

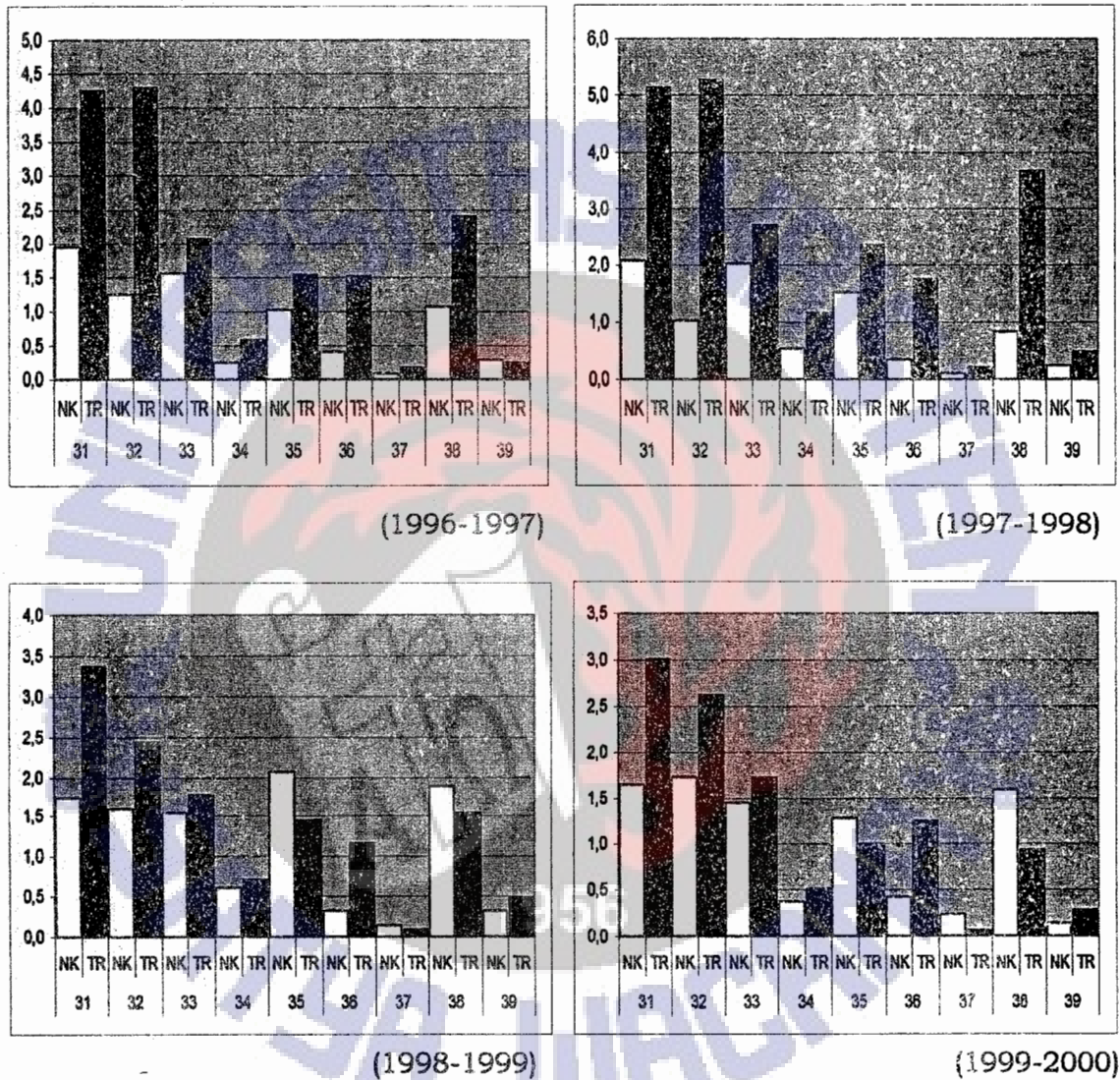
Almost similar with the global picture, the dynamics condition of MEs showed that the number of scaling-down MEs to SE always higher than the number of scaling-up MEs to BE. In 1997, year of the economic crisis, the number of scaling-down was the highest (22.7%). Similar with Berry and Sandee (2001) findings, the detail dynamic pictures of MEs according to its kind of industries showed that in 1996-1998 almost all kind of industries experiencing scalling-down situation (see Figure 3). Except for industrial number 33 (woods and wood products), where the number of scalling-down almost similar with the number of scaling-up.



**Figure 3**  
**Dinamika Industri Menengah Setiap Kelompok Industri (ISIC 2 Digit)**



In 1998-2000 the scaling-down and scaling-up numbers relatively smaller than the period before. It means that in 1998-2000, Mes were less dynamics than the 1996-1998 period. Some industries even experiencing the number of scaling-up were higher than the number of scaling-down, that were 32 (textile and leather products), 34 (paper and printing), 35 (fertiliser, chemical and rubber), 37 (iron and steel), and 38 (transportation tools). The MEs's dynamics in every year also showed interesting pictures.



NK=scaling-up, TR=scaling-down

**Figure 4**  
**Type of MEs Dynamics, yearly (ISIC 2 Digit)**

According to its classification of 'hi-tech and low-tech' industries, where hi-tech mean higher input in machinery and low-tech means higher input in labor, showed that its dynamics almost similar. It means that hi-tech and low-tech classification can't be used to identify the dynamics differentiation of MEs. However, before the crisis higher scaling-up was happen in low-tech MEs, while in after the crisis its vise versa.

**Table 8**  
**MEs Dynamic Conditions According Its Scale (1996-2000)**

THN	DYN	Type (unit)		Type (%)	
		L	H	L	H
1996-1997	UP	177	99	8.4	7.0
	DOWN	381	218	18.1	15.5
	STABLE	1 543	1 092	73.4	77.5
	Sub-Total	2 101	1 409	100.0	100.0
1997-1998	UP	183	115	9.1	8.2
	DOWN	464	312	23.1	22.2
	STABLE	1 363	976	67.8	69.6
	Sub-Total	2 010	1 403	100.0	100.0
1998-1999	UP	179	173	9.1	11.7
	DOWN	278	171	14.1	11.6
	STABLE	1 512	1 135	76.8	76.7
	Sub-Total	1 969	1 479	100.0	100.0
1999-2000	UP	175	137	8.6	9.2
	DOWN	269	132	13.3	8.9
	STABLE	1 584	1 215	78.1	81.9
	Sub-Total	2 028	1 484	100.0	100.0

Source: Tabulated from Large and Medium Industrial Survey(CBS)

Diferentiating its agriculture and non-agricultura type of industry also showed that the number of agricultural-based MEs were more dynamics than non-agricultural-based MEs. It means that the number of scaling-up and scaling-down agriculture-based MEs always higher than non-agriculture-based MEs.

**Table 9**  
**Dynamic Conditions of MEs According Its Type (1996-2000)**

Sector	DIN	1996-1997	1997-1998	1998-1999	1999-2000
Agriculture		Total (unit)			
	UP	203	227	239	215
	DOWN	426	527	311	294
	STABLE	1 886	1.681	1.848	1.939
	Sub-Total	2 515	2.435	2.398	2.448
Non- Agriculture		Total (unit)			
	UP	73	71	113	97
	DOWN	173	249	138	107
	STABLE	749	658	799	860
	Sub-Total	995	978	1.050	1.064
TOTAL		3 510	3 413	3 448	3 512
Agriculture		Total (%)			
	UP	5.8	6.7	6.9	6.1
	DOWN	12.1	15.4	9.0	8.4
	STABLE	53.7	49.3	53.6	55.2
	Sub-Total	71.7	71.3	69.5	69.7
Non- Agriculture		Total (%)			
	UP	2.1	2.1	3.3	2.8
	DOWN	4.9	7.3	4.0	3.0
	STABLE	21.3	19.3	23.2	24.5
	Sub-Total	28.3	28.7	30.5	30.3
TOTAL		100.0	100.0	100.0	100.0

Source: Tabulated from Large and Medium Industrial Survey(CBS)

According to its orientation of market (export market or domestic market), the number of domestic-MEs were higher than exporter-MEs, that was 89 % and 11% respectively. However, exporter-MEs was more dynamics than domestic-MEs, and even the number of scaling-up exporter-MEs was higher than exporter-MEs that scaling-down.

**Table 10**  
**MEs Dynamic Conditions According Its Orientation (1996-2000)**

Export Oriented	DIN	1996-1997	1997-1998	1998-1999	1999-2000	Rata-rata
		<b>Total (unit)</b>				
Yes	UP	98	80	12	65	64
	DOWN	82	74	8	40	51
	STABLE	424	284	51	357	279
	Sub-Total	604	438	71	462	394
No	UP	178	218	340	247	246
	DOWN	517	702	441	361	505
	STABLE	2 211	2 055	2 596	2 442	2 326
	Sub-Total	2 906	2 975	3 377	3 050	3 077
<b>Total</b>		<b>3 510</b>	<b>3 413</b>	<b>3 448</b>	<b>3 512</b>	<b>3 471</b>
		<b>Total (%)</b>				
Yes	UP	16.2	18.3	16.9	14.1	16.2
	DOWN	13.6	16.9	11.3	8.7	13.0
	STABLE	70.2	64.8	71.8	77.3	70.9
	Sub-Total	100.0	100.0	100.0	100.0	100.0
No	UP	6.1	7.3	10.1	8.1	8.0
	DOWN	17.8	23.6	13.1	11.8	16.4
	STABLE	76.1	69.1	76.9	80.1	75.6
	Sub-Total	100.0	100.0	100.0	100.0	100.0

Source: Tabulated from Large and Medium Industrial Survey(CBS)

Finally, according its location either in Java island (JMEs) or outside Java island (OJMEs), its showed that OJMEs more dynamics than JMEs. Furthermore, the scaling-down OJMEs was less than JMEs while the scaling-up was higher. It means that the OJMEs were better dynamics of JMEs.

**Table 11**  
**The Dynamics of MEs According Its Regions 1996-2000**

Regions	DIN	1996-97	1997-98	1998-99	1999-00	Rata-rata
		<b>Total (unit)</b>				
JW	UP	217	242	288	251	250
	DOWN	510	639	372	336	464
	STABLE	2 188	1 930	2 217	2 367	2 176
	Sub-Total	2 915	2 811	2 877	2 954	2 889
LJW	UP	59	56	64	61	60
	DOWN	89	137	77	65	92
	STABLE	447	409	430	432	430
	Sub-Total	595	602	571	558	582
<b>TOTAL</b>		<b>3 510</b>	<b>3 413</b>	<b>3 448</b>	<b>3 512</b>	<b>3 471</b>
		<b>Total (%)</b>				
JW	UP	7.4	8.6	10.0	8.5	8.6
	DOWN	17.5	22.7	12.9	11.4	16.1
	STABLE	75.1	68.7	77.1	80.1	75.3
	Sub-Total	100.0	100.0	100.0	100.0	100.0
LJW	UP	9.9	9.3	11.2	10.9	10.3
	DOWN	15.0	22.8	13.5	11.6	15.8
	STABLE	75.1	67.9	75.3	77.4	73.9
	Sub-Total	100.0	100.0	100.0	100.0	100.0

Source: Tabulated from Large and Medium Industrial Survey(CBS)

Ket.: JW = Java dan Bali, LJW = Outer Java Island

#### • The Effect of Internal and External Factors on MEs Dynamics.

Analyse on the effect of internal and external factors on MEs dynamics was carried out by using Multinomial Logistic Regression (MLR) model. According to the literatures, some internal factors that hypothetically effected MEs dynamics were year of busines (year), total income (income), output and productivity. Aw (2001) strenghtened that not size of enterprise

but productivity had higher impact on MEs growth (Liedholm, 2001). The external factors that impacted on MEs dynamics were tax berden and interest rate (Kim and Nugent, 1994).

For analysing the crisis impact, market orientation and location, dummy variables would be used for year (before and after crisis), market orientation (export and domestic) and location (Java and Outside Java). The result showed in Table 12.

**Table 12**  
**Parameter Estimation Result of MEs Dynamics**

Variabel	Nilai			Tanda		
	B	Sig.	Exp(B)	B	Sig.	Exp(B)
YEAR	1.87E-03	0.663	1.002	+	-	>1
INCOMEs	3.44E-08	0.507	1	+	-	1
OUTPUT	4.71E-06	0.813	1	+	-	1
PRODUCTIVITY	-2.97E-04	0	1	-	a	1
TAXBURDEN	2.76E-06	0	1	+	a	1
INTEREST	8.06E-07	0.005	1	+	a	1
CRISIS (AFTER=1)	7.28E-01	0.153	2.071	+	-	>1
LOCATION (JW=1)	6.81E-02	0	1.07	+	a	>1
PERT=TDK	-3.06E-01	0.587	0.736	-	-	<1
EKSPOR=TDK	-7.03E-01	0.031	0.495	-	a	<1
MDL_ASNG=TDK	-9.39E-01	0	0.391	-	a	<1
KLSIND=H	0.206	0.001	1.228	+	a	>1

Ket.: a = significant level of 5%.

The result showed that only labor productivity had negative effect for MEs scaling-up to BE, while the other factors had positive effects. It means that the increasing of labor productivity would decrease the opportunity of MEs to scaling-up and become BE. The other variables showed positive effect on MEs dynamics, it means that the higher the number the more chance for MEs to scaling-up to become BE.

What other interesting finding was that all two external factors, tax burden and interest, similarly had positive effect on MEs's dynamics. It means that all although tax and

interest rate getting higher the possibility of MEs to become BE also getting higher. These conditions were happen maybe because of tax and interest rate still perceived low to MEs so when the interest increased still make MEs possible increase their scale.

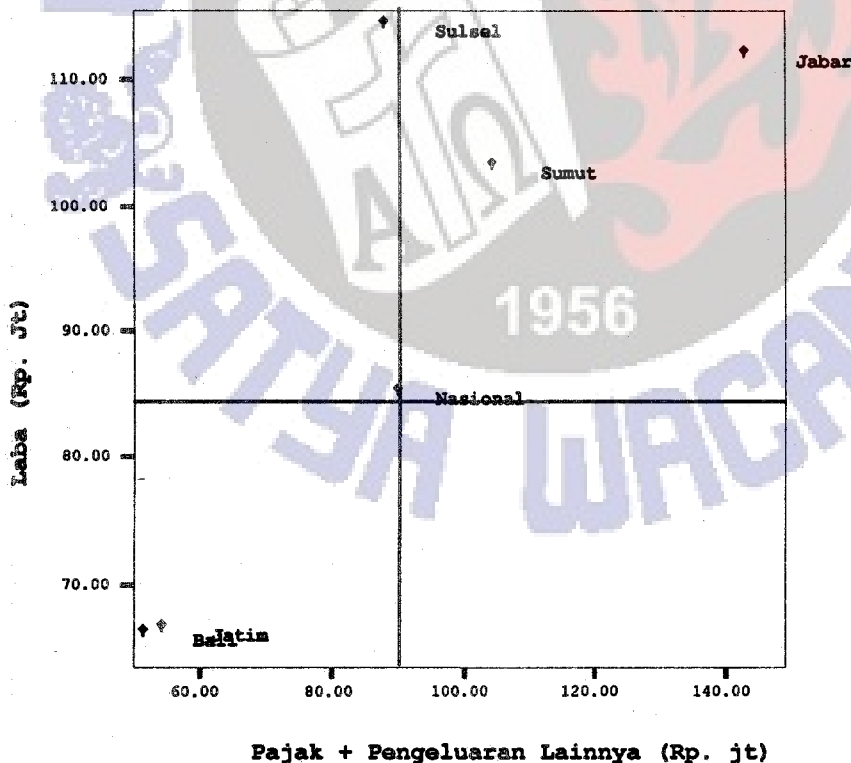
The last question was are they any relations between enterprise achievement and obstacles that faced by medium enterprises (Levy, 1991; Beck and Levine, 2000). Crosstab of achievement and obstacles showed there were a relatively strong negative correlation between achievement (i.e. profit) and obstacles (i.e. tax burden).

**Table 13**  
**Crosstabs Analysis on Investment and Profit (2000)**

		KLABA			Total
		1	2	3	
KIT1VCU 1	Count	152	617	1248	2017
	% of Total	1.0%	4.2%	8.6%	13.8%
2	Count	2244	3969	1806	8019
	% of Total	15.4%	27.2%	12.4%	55.0%
3	Count	2915	1355	281	4551
	% of Total	20.0%	9.3%	1.9%	31.2%
Total	Count	5311	5941	3335	14587
	% of Total	36.4%	40.7%	22.9%	100.0%

Source: Tabulated from Large and Medium Industrial Survey (CBS)

However from the difference between regional characteristics it can be showed that different region had different conditions. One example was a mapping between tax paid, as obstacles, and profit raised, as achievement.



Source: Tabulated from Large and Medium Industrial Survey(CBS)

**Figure 4**  
**Link Between Tax and Other with Obstacles**

From the figure it can be seen that on the average MEs paid taxes around Rp 90 juta per year and got net profit only Rp 70 juta per year. The regions that their obstacles higher were West Java, North Sumatera, South Sulawesi, East Java and Bali. While from the profit the higher to the lower were South Sulawesi, West Java, North Sumatera, East Java and Bali.

## Conclusion

Analyse on MEs dynamics showed that MEs were dynamics enough to scaling-up to BE or scaling-down to SE, so MEs had more potential to become industrial ladder of SE to BE. The crisis also had different impact on the dynamics of MEs. Finally, internal factors and external factors also had high impacted on MEs dynamics.

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