

EFFICIENCY IN TURKISH AGRICULTURAL SECTOR

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Turkish Agriculture: Overview

- Share in GDP : 11.6 %
 - Total Agricultural land: 26 Million Ha.
 - Cultivated:
 - Irrigated:
 - Share in:
 - Population: 34 %
 - Employment: 22 %
 - Average per capita rural V.A.: \$ 4601
 - Share in:
 - Exports: 9.4 %
 - Imports: 4.5 %
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Problems: Recent Discussion

- High rural population
 - Irrational subsidization policies
 - Self sufficiency
 - Inefficiency
 - Competitiveness
 - Links to rural development
 - Prices (only recently!)
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Challenges

- WTO agreement
 - Opening market to world wide competition
 - EU Accession
 - Implementing CAP and various regulations
 - Economic Stability
 - Burden on budget
 - Rural development
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Attempt to Solution: ARIP

- Started to be implemented after 2001
 - Main ideas:
 - Eliminating government intervention in agricultural sector
 - No direct purchases from market
 - No input/output subsidies
 - Credit subsidies gradually decreased
 - Rationalizing the subsidies (DIS system)
 - Promoting alternative products
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Efficiency: Why is it important

- Underlying factor for most problems
 - Competitiveness
 - Lower costs
 - Higher quality
 - Self sufficiency of rural HH.
 - 75% of HH has non-agricultural income
 - 12% of HHs incomes are from transfers
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Data: A general picture

- Data is unique
 - It is taken from ARIP QHS
 - 3014 Households observed for 2002 & 2004
 - 2001: Economic Crisis & ARIP
 - 2002: Implementation
 - 2004: Effects to be observed
 - Data is highly representative of agricultural sector
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Descriptive Findings: Income and Production

- Per capita revenue is higher in Western and Southern parts of the country
 - Considerable divergence among regions in usage of modern inputs: sign of segmented structure of agricultural production
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Descriptive Findings: DIS

- Regions with small land holdings are also at the bottom of DIS distribution albeit their low agricultural revenue.
 - The amount of total support payments have increased by 50 percent during the period.
 - The underlying reason is
 - delayed DIS payments
 - implementation of the alternative crop payments
 - increase due to DIS payments: 13 %
 - increase new support programs: 36 %
 - Distribution of DIS payments is utterly uneven
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Descriptive Findings

- ❑ Structure of agricultural production comprises a complicated composition.
 - ❑ Applying different incentive creating policies is unavoidable
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Technical Efficiency

- Ability of farmers to transform inputs to revenue
 - Production efficiency
 - Marketing efficiency
 - Strong evidence on high time varying inefficiency
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Estimation: Significant Results

- ❑ Land and the inputs that are used to enhance the yield of land play a major role in production
 - ❑ Efficiency impeding effect of irrigation by electrical pumps
 - ❑ Low quality of technical support
 - ❑ Significance of livestock production for the efficiency of different household groups.
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Efficiency Scores

Region	Rank		Average		Std. Dev.	
	2002	2004	2002	2004	2002	2004
West Marmara	1	3	44	58	19	19
Aegean	2	5	36	50	19	19
East Marmara	5	1	36	59	20	21
West Anatolia	9	2	25	37	16	18
Mediterranean	3	6	36	47	20	20
Central Anatolia	10	11	25	36	16	17
West Black Sea	8	9	26	37	15	16
East Black Sea	6	10	36	49	17	19
Northeast Anatolia	11	8	22	38	13	21
Central East Anatolia	7	7	26	35	15	21
Southeast Anatolia	4	4	27	32	17	19
Turkey			33	46	19	21

Efficiency

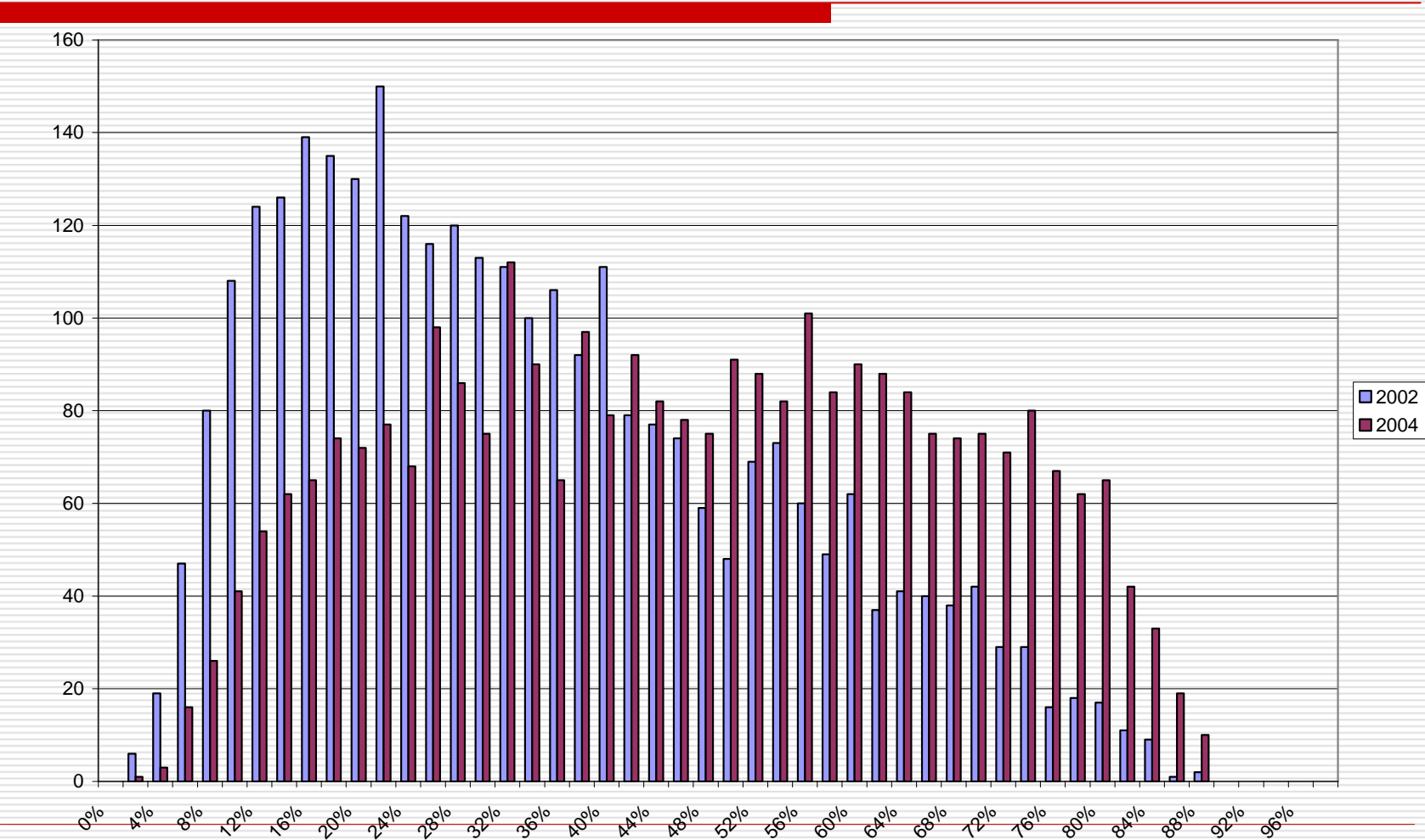
- There is a significant increase in the efficiencies from 2002 to 2004
- Increase is not due to income

Region	Efficiency	Revenue	Difference
West Marmara	14.11	15.61	1.50
Aegean	13.34	22.18	8.84
East Marmara	22.78	82.09	59.31
West Anatolia	11.68	50.64	38.96
Mediterranean	11.03	41.90	30.87
Central Anatolia	10.94	43.98	33.04
West Black Sea	10.49	26.70	16.20
East Black Sea	13.25	33.23	19.98
Northeast Anatolia	16.09	89.86	73.78
Central East Anatolia	8.31	12.17	3.86
Southeast Anatolia	5.42	0.22	-5.20
Turkey	12.68	32.80	20.12

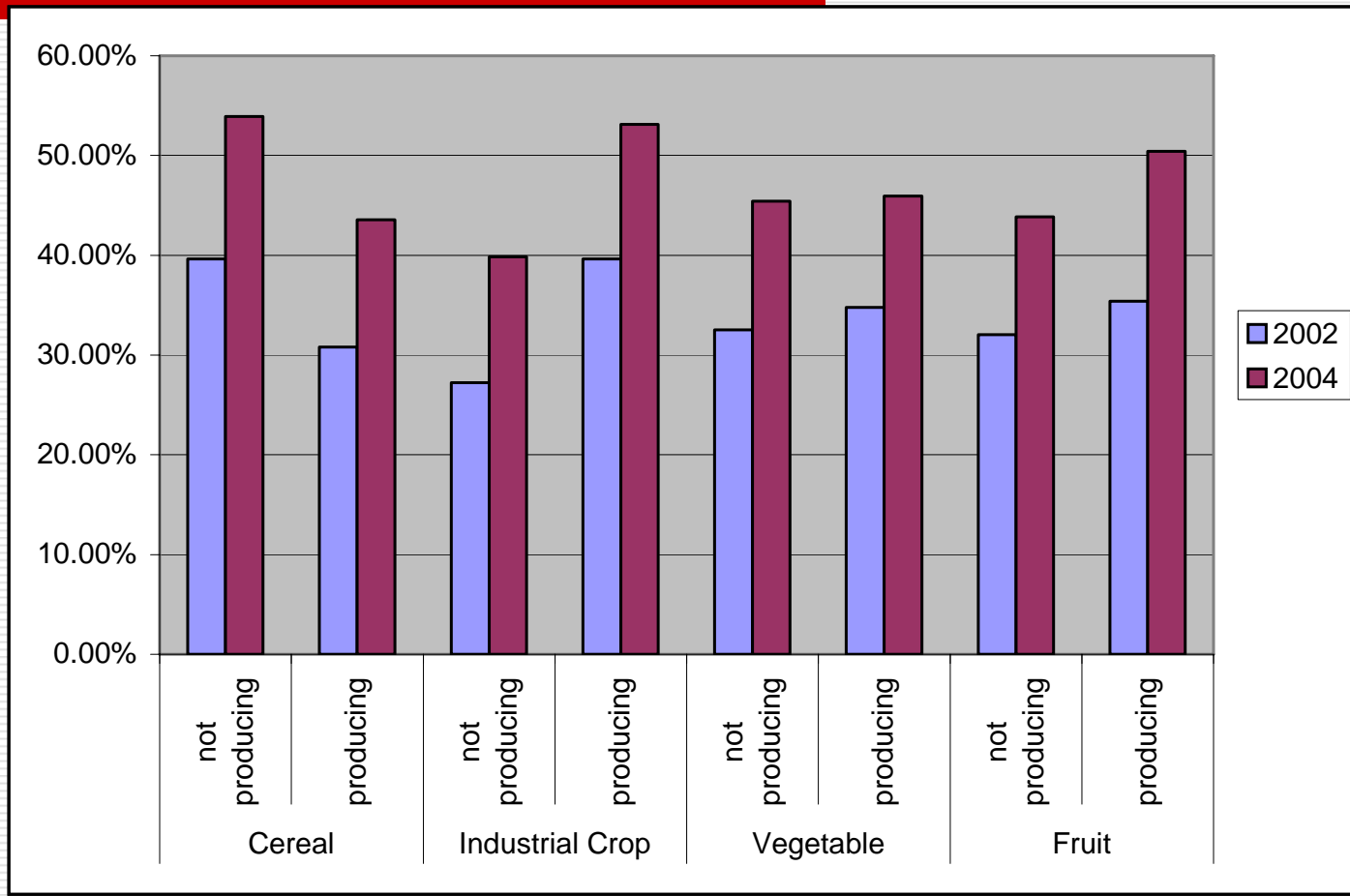
Efficiency

- Standard deviation is higher in western regions while it increases significantly in eastern parts of the country from 2002 to 2004.
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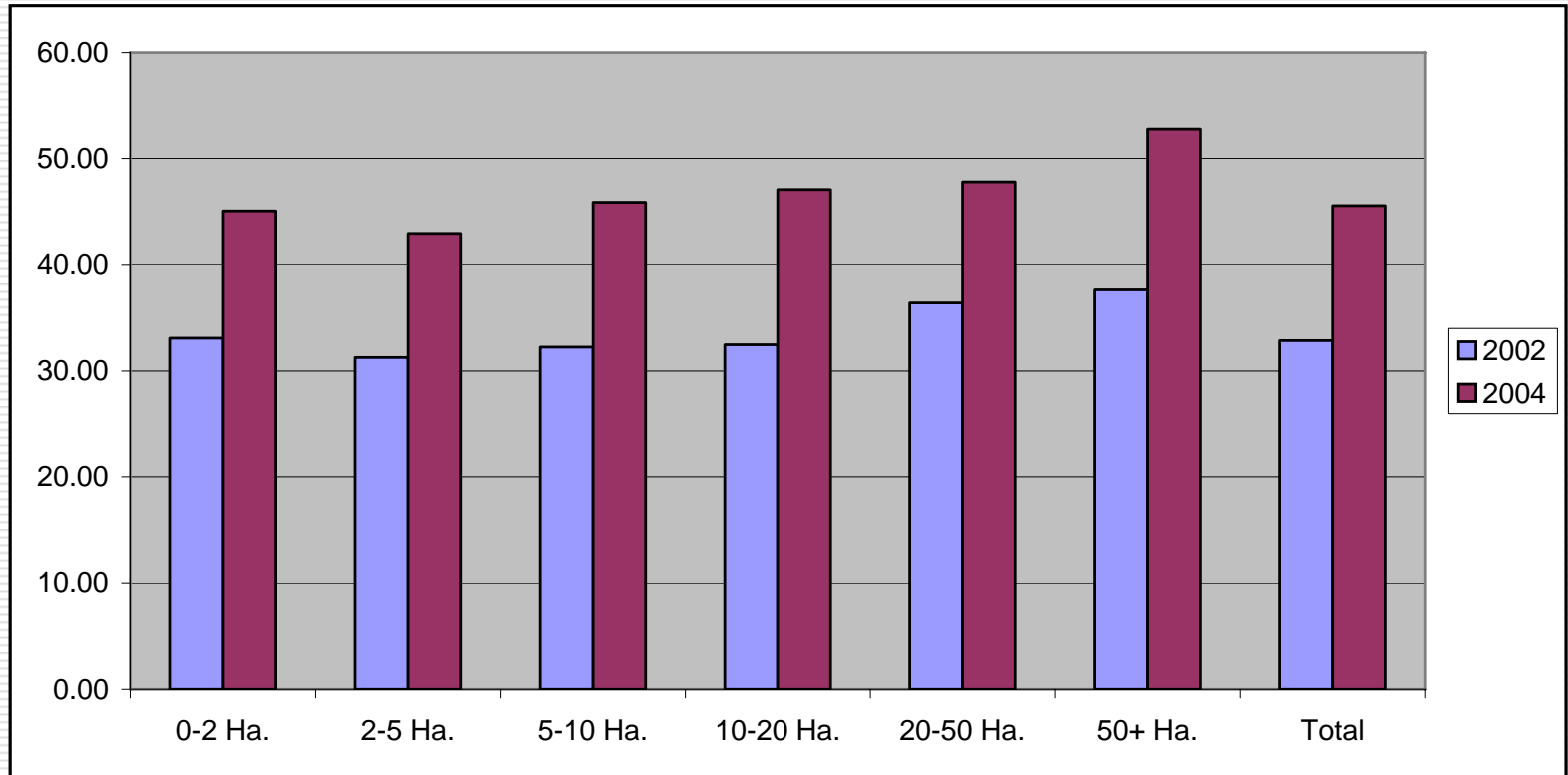
Efficiency



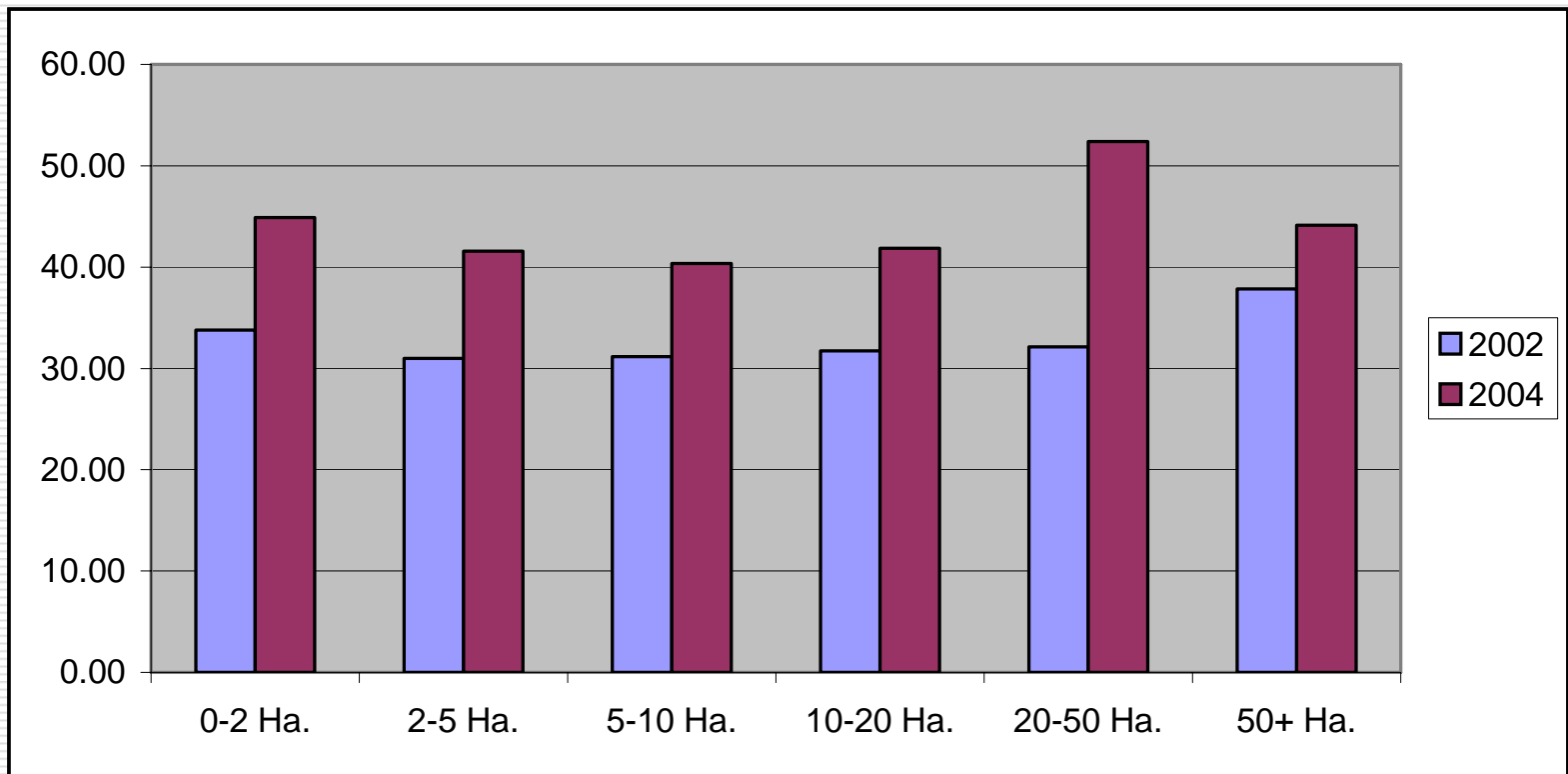
Efficiency acc. to product type



Efficiency acc. to size groups



Efficiency acc. to size among DIS receivers



Conclusions

- ❑ Better integration of producers to the markets
 - ❑ Differential treatment of agricultural policies for different regions
 - ❑ It is not possible to increase output without increasing cultivated land
 - ❑ Labor is found to have an efficiency deteriorating effect on many factors.
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Conclusions

- ❑ Livestock production is not market oriented
 - ❑ Low quality and quantity of technical support
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