



# **Identifying the Determinants and Extent of Crop Diversification at Farm Level: A case study of Uzbekistan**

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# Outline

- **Introduction**
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# Introduction

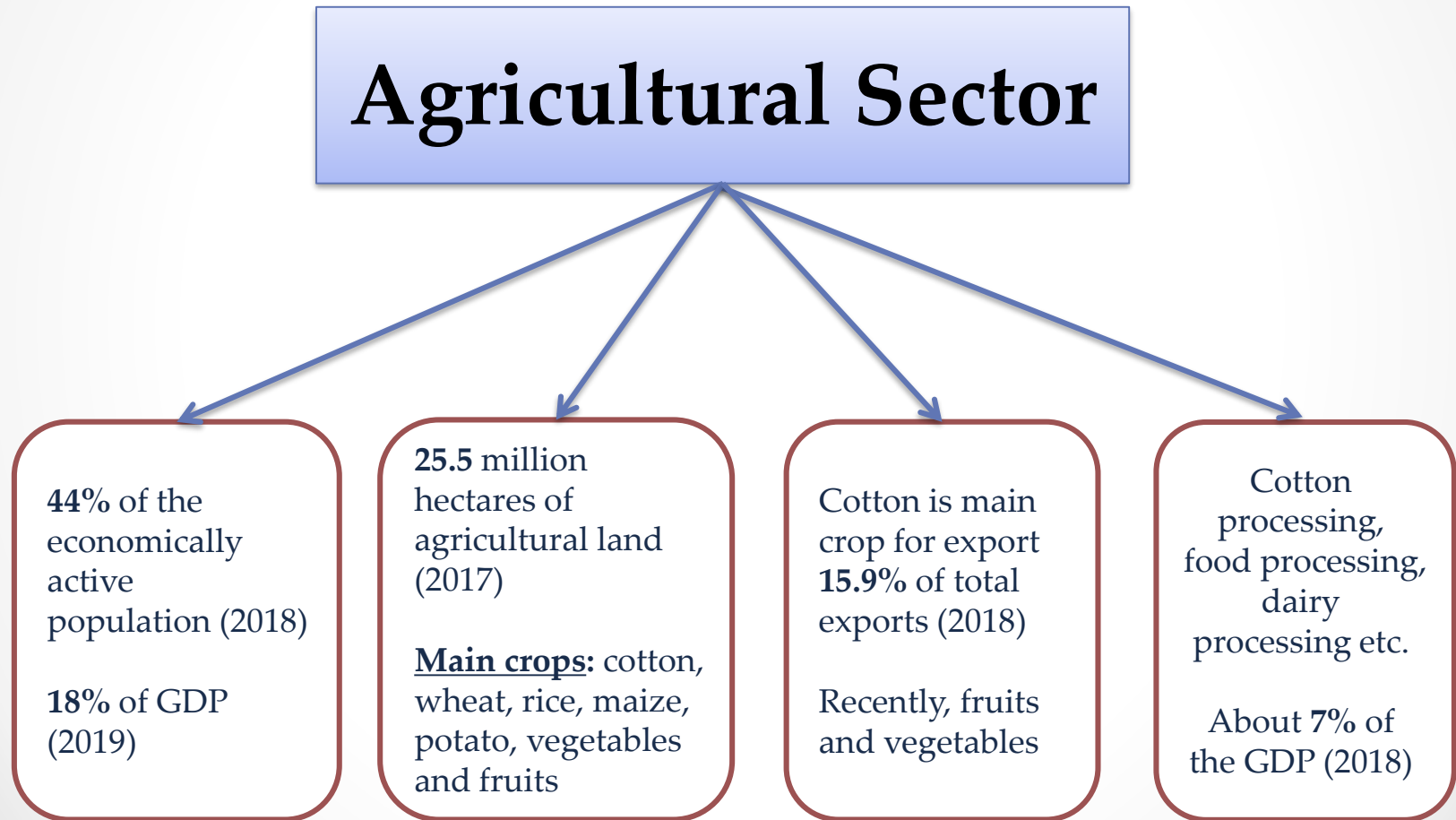
## ➤ Background of the study

- Agricultural policies were highlighted more strategically crops such as **cotton** and **winter wheat** (Hasanov, 2016)
- Limited policy attention for other crops, such as **fruits** and **vegetables** (Hasanov, 2016)
- Cotton and winter wheat occupy around **80%** of the total irrigated land (Nurbekov et al., 2018; Hasanov, 2016)
- More than **75%** sown areas accounted for cotton
- It reduced to **48.5%** and subdivided into production of food crops, such as wheat, vegetables and other crops

**Source:** (The State Committee of the Republic of Uzbekistan on Statistics, 2018).

# Introduction (cont.)

- The role of agriculture in the economy of Uzbekistan



**Source:** (The State Committee of the Republic of Uzbekistan on Statistics, 2018)

# Introduction (cont.)

## ➤ Problem Statement

- **State-mandated crops** threatens sustainable agricultural development (Bobojonov et al., 2008)
- Agricultural **reforms** in order to stabilize **food security** in the country (Hasanov, 2013)
- Scarcity of existing **agricultural lands** and **crop diversification system** (Lazikova et al., 2019).
- The **National Development Strategy** for **2017-2021** recognizes the need for diversification (PD-4947, 2017)
- **Crop diversification** was initiated by the government in order to intensify the **farm income** and **export potential** (PD-4947, 2017)

# Introduction (cont.)

## ➤ Objectives:

- To analyze the **nature** and **extent** of crop diversification;
- To assess the **effect** of crop diversification on **farmers' income**.

# Preliminary Results

- Descriptive statistics of output and input variables used in regression analyses

Variables	Unit of measurement	Mean	Standard deviation	Min.	Max.
<b>Output:</b>					
Farm Income	usd/ha	1.6	2.01	0	7.96
<b>Inputs:</b>					
Ln (Labor_HA)	man-days/ha	6.1	3.19	0	14.36
Ln (Capital_HA)	usd/ha	6.3	1.65	0	10.68
DIVERSIFICATION INDEX	SID	0.45	0.22	0	0.82

# Preliminary Results (cont.)

## ➤ Coefficients of OLS regression of the farm income effects of crop diversification

Dependent Variable: Ln(FARM INCOME)	Coefficients	Standard error	t-statistics
Intercept	2.25352***	0.37120	6.07
Ln (Labor_HA)	0.28191***	0.02944	9.57
Ln (Capital_HA)	0.22051***	0.05464	4.04
DIVERSIFICATION INDEX	1.45919**	0.46192	3.16
Adjusted R-squared	0.35		
Number of observations	381		

**Note:** \*\*\*, \*\*, \* indicate significance at 1%, 5% and 10% level



# Conclusion

- The mean Simpson Index was found **0.45, 0.54, 0.57** and **0.62** for **Karakalpakstan, Kashkadarya, Andijan** and **Tashkent** states.
- **Tashkent** region farmers shifted towards **more diversification** cropping patterns than other counterparts of the country.
- The overall result in the four states combined in this study reveals a mean **Simpson Index** of **0.58**.
- The farmers in the study area were **not too diversified** in their cropping pattern.
- There is a high correlation between **diversification** and **farm income** .
- The **labor, capital** and **crop diversification index** are positively and significantly influenced by **farm income** .
- The sign of coefficients are **positive**, meaning that all inputs contribute to increase **farm income**.

# Thank you for your attention !!!

