

Week 2 - Lab 2: Spreadsheet Design Rules

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Overview

- This Tutorial includes the following topics:
 - Some basic rules about design
 - Parts of a well designed spreadsheet
 - More Examples

Basic Design Rules

1. **Design first on paper:**
 - Graph paper often works well.
2. **Test and edit your calculations:**
 - use intermediate calculations
 - check-sums to ensure calculations are correct
3. **Keep the components of a calculation visible:**
 - No "magic numbers".
 - Place fixed numbers used in a calculation in their own cell with a descriptive title.
4. **Be aware of the geography of the spreadsheet:**
 - Arrange your information so that it is well spaced and easy to take in at a glance.

Well-Designed Spreadsheet

- Components of a well-designed spreadsheet:
 - **Introduction:**
 - What is this spreadsheet or workbook about?
 - Note the title, purpose, author, creation and revision dates etc.
 - **Model and Assumptions:**
 - Justify any models, summary statistics, or calculated variables you are using.

Well-Designed Spreadsheet

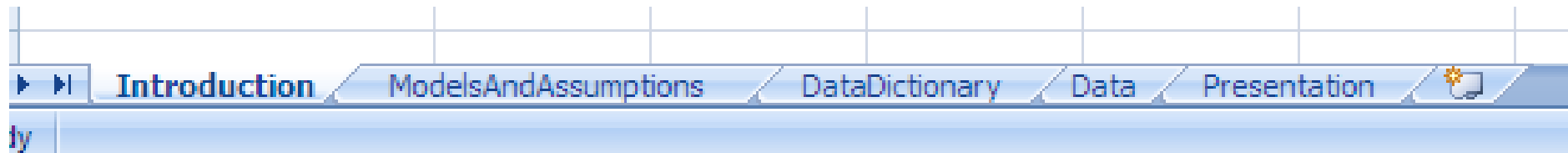
- Components of a well-designed spreadsheet:
 - **Data Dictionary:**
 - For every variable in the spreadsheet note: its
 - **Location** (cell range),
 - **Name**,
 - The **Data Class** it is (Raw Data, Statistical Summary, Calculated Variable, Score etc.),
 - **Data Type** (e.g. Integer, Text, Currency, Date, etc.) and
 - **Description** (a description of the data or what it's 'purpose' is).
 - **Raw Data:**
 - Present your raw data in tabular form -- with **columns representing variables** and **rows representing cases**.

Well-Designed Spreadsheet

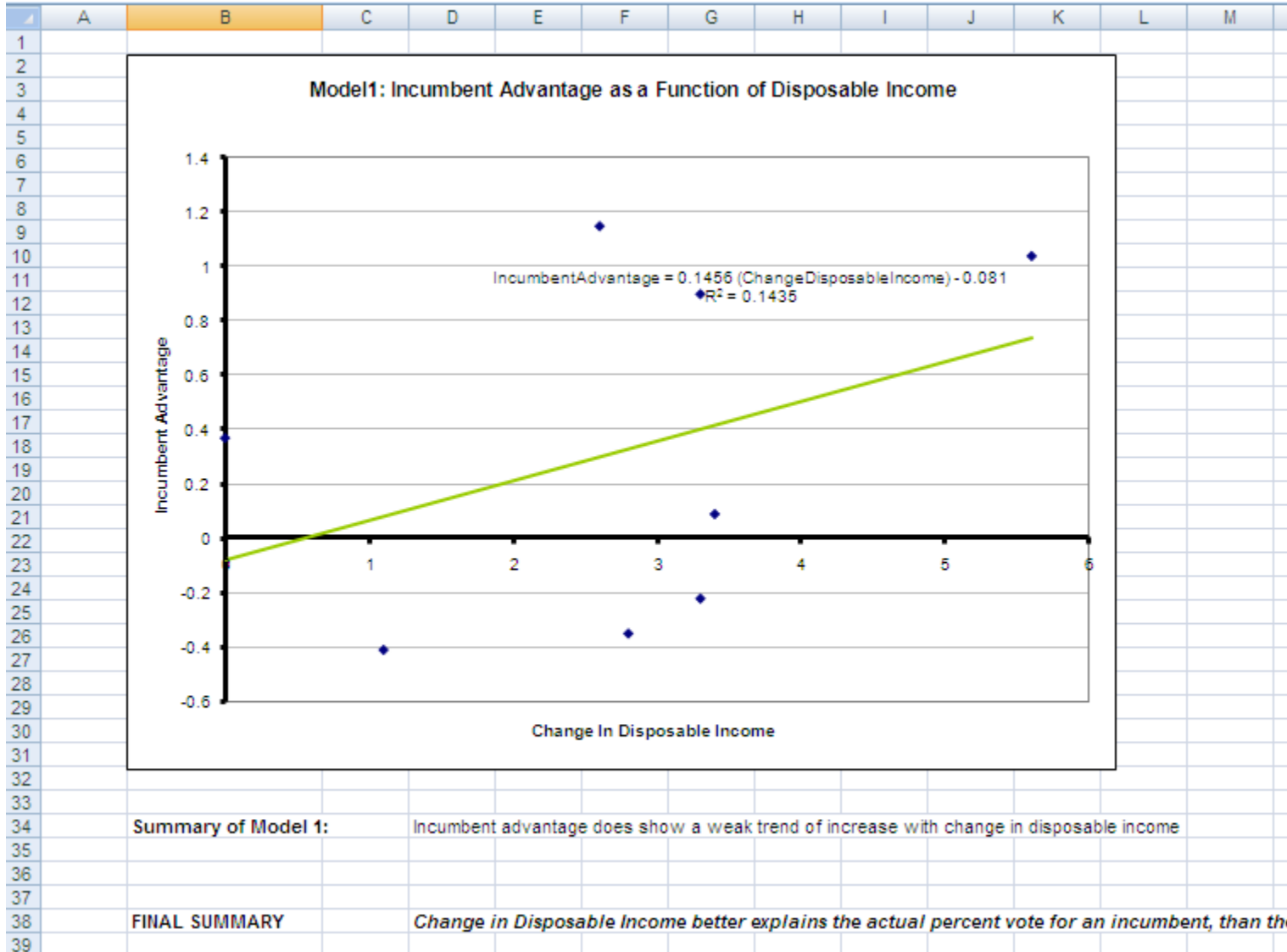
- Components of a well-designed spreadsheet:
 - **Calculated Data:**
 - Summary Statistics:
 - Usually Summary statistics result from calculations across rows for a single column.
 - Derived variables:
 - Often based on calculations across columns for a row.
 - **Presentation:**
 - Emphasize the final information you wish to show without excessive background details.
 - Use charts wherever appropriate to summarize large volumes of data.

Example

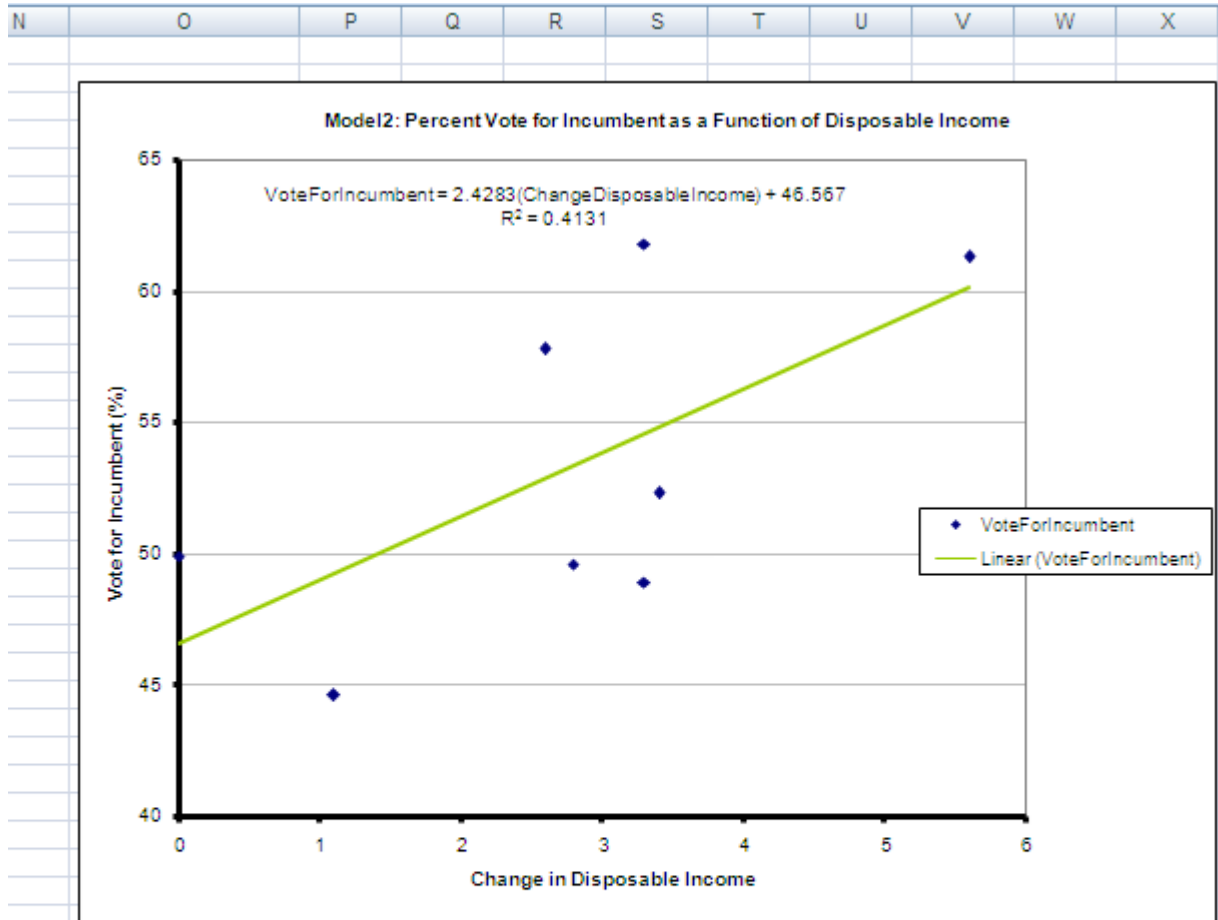
- [Media:AnalysisExamples
PresidentsDataAndAnalysis 4 20080306.xls](#)



Example – Presentation



Example – Presentation



Summary of Model 2:

Vote for Incumbent shows a clearer trend of increase with change in disposable income. Model 2 has a higher R-Squared value (0.43) than Model 1 (0.14) indicating a

Incumbent Advantage score.