Project LaTeX Explainer and Navigational Guide

Documentation Index for the Shaikh & Tonak Replication

September 28, 2025

Abstract

This guide explains where to find every major piece of information in the project: methodology, code, data, generated reports, and build instructions. Use it as a map to quickly locate what you need.

Contents

1 Project Structure Overview

Path	Purpose
`Technical/data/`	All data sources: extracted book tables, unified historical database, and modern extension data.
`Technical/data/historical/`	Book tables (replication targets), curated CSVs for Table 5.x.
`Technical/data/unified_database/`	Unified database (CSV/XLSX) with metadata/logs.
`Technical/src/`	All code (extraction, analysis, replication, validation, extension).
`Technical/src/analysis/replication/`	Reproduce Table 5.4 and related results.
`Technical/src/analysis/validation/`	Validation tools comparing sources and checking accuracy.
`Technical/docs/methodology/`	Core methodology in LaTeX (complete technical description).
`Technical/docs/latex/`	Focused LaTeX documents: code explainer, validation, this explainer, and bird's-eye view.
`Technical/docs/reports/`	Generated reports and summaries.
`.github/workflows/`	CI configuration for building PDFs (artifacts uploaded on push/PR).

2 Data Inventory (Paths)

Location	Contents
`Technical/data/historical/book_tables/`	Extracted book tables (many 'table_pXX_*.csv'), curated 'table_5_4*.csv'.
`Technical/data/historical/processed/`	Replication products (e.g., 'table_5_4_perfect_replication.csv', 'marxian_variables_calculated.csv').
`Technical/data/unified_database/`	Unified database CSV/XLSX plus 'database_metadata.json', creation logs and summaries.
`Technical/data/modern/integrated/`	'complete_st_timeseries_1958_2025.csv' and integration metadata.
`Technical/data/modern/final_results/`	Faithful series CSVs (1958–1989, 1958–2025) + metadata.
`Technical/data/modern/final_results/academically_sound/`	Academically sound and validation JSON.
`Technical/data/modern/final_results/KLEMS-integrated/`	KLEMS-linked variants and validation.
`Technical/data/source_pdfs/keyPDFs/`	Source publications (NIPA, BLS, BEA, etc.).

3 Key LaTeX Documents and What They Contain

Document	Contents
Technical/docs/methodology/SHAIKH_TONAK_METHODOLOGY.tex	How to make the book: variable definitions, data sources, formulas, validation metrics, quality checks.
Technical/docs/latex/SHAIKH_TONAK_METHODOLOGY_WITH_CODE.tex	Same methodology, plus implementation notes and code-oriented details.
Technical/docs/latex/SHAIKH_TONAK_CODE_EXPLAINER.tex	Book recipe, LaTeX formulas, and Python listings outside tables for clarity.
Technical/docs/latex/SHAIKH_TONAK_VALIDATION_REPORT.tex	Visual and numerical validation; compiles even if plots are missing.
Technical/docs/latex/PROJECT_LATEX_EXPLAINER.tex	This plain-language guide to all project resources.
Technical/docs/latex/PROJECT_BIRDS_EYE_VIEW.tex	Story-style overview: replication story, comparisons, updates, implementation reasoning, and charts.

4   Where to Find Data

- **Book Tables**: `data/extracted_tables/book_tables/`

- **Unified Historical DB**: `data/unified_database/`

- **Modern Extension Inputs**: `data/modern/`

- **Source PDFs**: `data/source_pdfs/`

5   Where to Find Code

- **Replication**: `src/analysis/replication/`

- **Validation**: `src/analysis/validation/`

- **Extraction**: `src/extraction/`

- **Core Utilities**: `src/core/`

- **Extension**: `src/extension/`

6   How to Build the LaTeX Documents

Build Commands

Use the project script in `Technical/scripts/` (requires `latexmk`):

```
./Technical/scripts/build-latex.sh          # defaults to Output/pdfs
./Technical/scripts/build-latex.sh --outdir Output/pdfs
```

Builds all `.tex` in `Technical/docs/latex/` and `Technical/docs/methodology/` (outputs under `Output/pdfs`).

Continuous Integration builds PDFs automatically on push/PR via `.github/workflows/latex.yml` and uploads them as artifacts.

7 Quick Links (Paths)

- Methodology: `docs/methodology/SHAIKH_TONAK_METHODOLOGY.tex`

- Code Explainer: `docs/latex/SHAIKH_TONAK_CODE_EXPLAINER.tex`

- Validation Report: `docs/latex/SHAIKH_TONAK_VALIDATION_REPORT.tex`

- Bird's-Eye View: `docs/latex/PROJECT_BIRDS_EYE_VIEW.tex`

8 Troubleshooting

> **Common Issues**
>
> - Missing images: documents are robust to missing plots and will compile without them.
>
> - Package availability: `latexmk` and common LaTeX packages are required; CI installs TeX Live groups that satisfy them.
>
> - Clean build: run `latexmk -C` in the output directory for a fresh build.