Chapter 7
Technical Analysis Toolkit

7.1 Introduction

We present in this chapter some basic features and functionalities of a toolkit for technical analysis of stocks (T-TAS) developed under a MATLAB environment (Version 6.5 and above). The initial version of the toolkit [34] was a result of a final year project conducted in the Department of Electrical and Computer Engineering, National University of Singapore. Since then, the toolkit has been significantly revised and enhanced to incorporate new features, such as those related to the system adaptation framework documented in this monograph. Shown in Figure 7.1 is the main interface of the T-TAS.

The toolkit is developed for the purpose of providing an easy-to-use yet powerful platform to analyze the stock markets or financial markets in general. There are two main features of the toolkit. One is a user-friendly graphical interface, implemented by the MATLAB graphical user interface (GUI) tools, to provide an intuitive and interactive environment. From online data loading to data analysis, it is just a single click away. It also provides a clear display of the analyzed results including the stock prices and volumes, plotting of indicators and trading signals. The other feature is its advanced functionalities. The T-TAS is linked to the historical as well as real-time prices. As such, the data analysis could be performed at weekly, daily and even intraday frequencies. It provides basic and advanced technical analysis as well as some newly developed functions related to the system adaptation framework. These functionalities can be used in a simplest form that the user could use them without in-depth programming or chart reading skills. This chapter is aimed to serve as a user manual for the toolkit. However, in order to appreciate all functions implemented, some basic knowledge of the technical analysis would certainly be helpful.

The T-TAS has been fully tested for counters listed on the NYSE, NASDAQ, Singapore Stock Exchange, Hong Kong Stock Exchange, Shanghai and Shenzhen Stock Exchanges. The toolkit should work for the markets in Australia, Indonesia, India and almost all markets worldwide. It can also be extended to the analysis of other financial markets. Even though there are many financial analysis (generally expensive) software platforms available in the market, the T-TAS offers a cheap
Fig. 7.1 Main panel of the T-TAS