

For discussion
on 10 December 2013

LegCo Panel on Food Safety and Environmental Hygiene

Outcome of the Review on Measures to Improve the Powdered Formula Supply Chain

Purpose

This Paper aims to report to Members on the outcome of the Government's review on the trade's measures to improve the supply chain of powdered formula, and outline the Government's position regarding the regulatory measures on the export of powdered formula.

Background

Import and Export (General) (Amendment) Regulation 2013

2. To combat the problem of parallel traders diverting large quantities of powdered formula away from the supply chain in Hong Kong, the Government has regulated the export of powdered formula from Hong Kong since 1 March 2013 through legislative amendments. The Import and Export (General) (Amendment) Regulation 2013 (the Amendment Regulation) prohibits the export of powdered formula from Hong Kong except with a licence issued by the Director-General of Trade and Industry. Having regard to the need of people leaving Hong Kong for powdered formula for personal use, not more than a total net weight of 1.8 kg of powdered formula may be carried by each person aged 16 or above on his/her first departure within a 24-hour period.

3. The Amendment Regulation has been very effective. Since the implementation of the Amendment Regulation, parallel trading activities related to powdered formula have dropped substantially, while the supply of powdered formula at retail outlets has become sufficient when compared with the situation early this year, though shortage of some popular brands of powdered formula is still observed at times.

4. We note that since the Amendment Regulation came into effect, there has been a continued expansion in the volume of import, re-export and retained import of powdered formula. According to the figures from March to September 2013 (Annex I):-

- (a) import of powdered formula was 28.48 million kg, representing a growth of 15% and 23% over the same period in 2012 and 2011 respectively;
- (b) re-export of powdered formula was 4.04 million kg, representing a growth of 176% and 130% over the same period in 2012 and 2011 respectively; and
- (c) retained import of powdered formula was 24.44 million kg, representing a growth of 5% and 14% over the same period in 2012 and 2011 respectively.

As at end of October 2013, the Trade and Industry Department has issued about 7 300 powdered formula export licences.

5. It can be seen that to a certain extent the Amendment Regulation has worked well in balancing the four areas relating to powdered formula, i.e. supply, retail, local demand and Mainland demand. It has catered for the needs of local parents for powdered formula while safeguarding free trade and commerce.

Measures to improve the powdered formula supply chain proposed by the trade

6. Nevertheless, the Amendment Regulation is not intended to be a long-term arrangement. The supply chain failure in relation to powdered formula has a major bearing on the serious shortage of powdered formula early this year. As such, suppliers of powdered formula must improve the supply chain to ensure a sufficient and stable supply of powdered formula for Hong Kong people.

7. In response to the Government's appeal, the trade¹ proposed the following Improvement Measures:-

- (a) reserving enough stock at the level of 1.65 million cans² for Hong Kong infants and young children aged under 36 months;
- (b) increasing delivery up to daily to pharmacies when required;
- (c) boosting the number of hotlines for taking purchase orders up to 50% when required;

¹ The Improvement Measures were proposed by the Hong Kong Infant and Young Child Nutrition Association (HKIYCNA) (membership of which includes Abbott, Cow & Gate, Friso, Mead Johnson, Nestle and Wyeth), Snow Brand and Hong Kong General Chamber of Pharmacy Limited (HKGCP).

² According to the statistics from the Census and Statistics Department, the number of Hong Kong-born infants and young children aged under 36 months is about 275 000 in 2013. As the Coupon Scheme allows redemption of a maximum of six cans of powdered formula by each eligible infant/young child per month, the reserved stock level is calculated as 1.65 million cans (i.e. 275 000 X 6).

- (d) establishing a “pre-order system” in 95 designated pharmacies as “Safety Net for Supply” for local infants and young children aged under 36 months (the Coupon Scheme)³.

8. In July 2013, the Government appointed a Committee on Supply Chain of Powdered Formula (the Committee) which comprises 14 non-official members, including major powdered formula suppliers, retailers, parents, representatives from the logistics sector, relevant academia and those representing consumer interests. The membership and terms of reference of the Committee are at Annex II. The Committee has held a number of meetings to examine and provide its views on the Improvement Measures.

9. To assist the Government and the Committee in scrutinising the Improvement Measures, we have also commissioned BMT Asia Pacific Ltd. (the Consultant) to conduct a Study on the Improvement Measures mainly through information collected from and discussion with stakeholders, desk-top study, simulation models, as well as a Stress Test conducted during the National Day Golden Week and the days immediately before and after it. The Study also covered the overall market and supply chain situation during the Stress Test.

Design and methodology of the Stress Test

10. The Stress Test was designed to evaluate whether the Improvement Measures can still work effectively under stress in a sustainable manner by employing certain model scenarios in the real-life

³ Under the Coupon Scheme, parents of local infants and young children aged under 36 months can apply for coupons from local suppliers. Coupon holders can collect the powdered formula at their preferred designated pharmacies, and supply is guaranteed in three working days (excluding Saturdays and Public Holidays).

environment. However, with the export control on powdered formula still in force, the Stress Test could only simulate market situations in which no export control was imposed as far as possible. The reason for choosing to conduct the Test during the National Day Golden Week as well as the days immediately before and after it was that the number of Mainlanders visiting Hong Kong would in general reach its peak during that time, thus creating a huge demand for powdered formula and exerting pressure on the supply chain.

11. Apart from the Improvement Measures (paragraph 7 above), the Food and Health Bureau (FHB) had also tasked the Consultant to evaluate the supply situation through other purchase channels, as some local parents may not rely on the Coupon Scheme to purchase powdered formula. These included on-line and telephone orders under the Parents' Clubs as well as walk-in purchases at pharmacies not participating in the Coupon Scheme and chain stores.

12. The Stress Test should be of optimal breadth and depth. The key features are as follows:-

- (a) in terms of breadth, the Stress Test covered various important segments of powdered formula supply chain and their operation, including suppliers' warehouses, suppliers' system for handling order placement, supply and delivery of products to pharmacies, and the system for stock keeping, distribution and sale of products of the pharmacies participating in the Coupon Scheme, etc. The Stress Test also included pharmacies not participating in the Coupon Scheme and chain stores;
- (b) the Stress Test was conducted in ten districts of Hong Kong where there have been frequent shortages of powdered formula supply, including North District, Yuen Long, Tuen

Mun, districts along the East Rail Line, Tseung Kwan O and some areas on Hong Kong Island;

- (c) in terms of depth, as the Coupon Scheme serves as a Safety Net for Supply, it must be able to deliver even in the worst situation. The Stress Test was therefore designed with scenarios of serious out-of-stock situations in varying degrees, including assuming that in areas where the shortages were most acute, such as North District, Yuen Long, Tuen Mun etc., 100% of the eligible parents were using the coupons, and purchasing massive quantities of powdered formula within a short period of time;
- (d) a huge number of telephone calls were made to suppliers' hotlines within a short time to simulate the peak demand period early this year when powdered formula was in short supply;
- (e) in determining the number of various tests, the Consultant has considered the market share of different brands of powdered formula; and
- (f) the Consultant has ensured that all test data and results are statistically sound.

Details of the Stress Test are at Annex III.

Findings of the Stress Test and assessment by the Consultant

13. Based on data obtained from the Stress Test, observations on the powdered formula market and supply chain during the Test, as well as other relevant information, the Consultant has made an assessment on the effectiveness and sustainability of the Improvement Measures and

provided advice to the Government accordingly. The Executive Summary of the relevant Consultancy Report is at Annex IV.

14. The Consultant considers that the Improvement Measures are steps in the right direction, and the Coupon Scheme a sensible arrangement. Regarding the performance of the Improvement Measures (set out in items (a)-(d) in paragraph 7 above) during the Stress Test, the Consultant is of the view that while the reserved stock of 1.65 million cans of powdered formula, the increased delivery and boosted hotline service all contributed to the generally credible performance of the supply chain, the Coupon Scheme fell short of expectation in other equally, if not more, vital areas, including insufficient number of participating pharmacies, long redemption lead time, the Scheme being prone to abuse as well as lack of publicity, co-ordination and monitoring , etc.

15. According to the evaluation of the Consultant, the Coupon Scheme is supposed to be a “Safety Net for Supply” and being such, it should only be invoked in deserving situations and once triggered, would have to function very effectively from day one to meet overwhelming demand. This is particularly so in situations involving health of infants and young children, many of whom depend on powdered formula as their sole source of nutrients. Inability to meet demand quickly would engender confidence crisis and lead to panic buying. Public acceptance of and confidence in the Scheme would entice a substantial number of local parents to enrol in the Scheme and obtain the powdered formula when the need arises, and is the key to the success of the Scheme as a “Safety Net for Supply”. However, such confidence is lacking as evidenced from the Study.

16. The suppliers have not sufficiently engaged consumers about the Scheme before and during the Stress Test. Consumers have not enrolled in the Scheme as it is not clear to them under what circumstances the Coupon Scheme as a “Safety Net for Supply” would be triggered, and what they should do once it is triggered. Due to the long lead time both

in enrolling in the Scheme and redeeming powdered formula, the Scheme certainly could not address the exigency of a heavy demand situation. This means that there is a need for the suppliers to start introducing the Coupon Scheme to consumers as early as possible, actively assess whether the Scheme aligns with their expectations and make proper adjustments as necessary to gain consumer acceptance and confidence⁴.

17. Secondly, while the trade worked very hard to a large extent on their individual supply chains to meet the challenges posed by the Stress Test, there was room for better co-ordination and more concerted actions on the part of the trade to enhance communication with the public and among supply side stakeholders to address problems such as abuse of the Coupon Scheme and a lack of concrete understanding about how the Scheme works vertically (from suppliers to warehouses and then to pharmacies) and horizontally (among suppliers on the one hand and pharmacies on the other).

18. Although the trade was made aware of the Stress Test beforehand and had supposedly geared up their supply chain in preparation for the Test, serious out-of-stock situations were observed for some major powdered formula brands in retail outlets (including chain stores and pharmacies not participating in the Coupon Scheme) during the Stress Test when the export control on powdered formula was in force. This, coupled with the issues on the effectiveness and sustainability of the Improvement Measures, the assessment of the Consultant is that unless the Improvement Measures are substantially enhanced along the recommendations in the Report (see paragraph 4 of Annex 4), steady and sufficient supply of powdered formula to meet local demand cannot be ensured.

⁴ HKIYCNA, Snow Brand and HKGCPL announced the signing of the “Sufficient Supply Charter” in April 2013 and introduced Improvement Measures on the supply chain of the powdered formula. A further announcement on the launch of the Coupon Scheme was made in June 2013.

Views of the Committee on Supply Chain of Powdered Formula

19. At its meeting of 20 November, the Committee discussed the Stress Test findings, analysis and recommendations set out in the Executive Summary of the Consultancy Report and expressed its views on the improvement of powdered formula supply chain.

20. The Consultant's assessment (paragraphs 13-18 above) was generally accepted by members of the Committee, who considered that the Improvement Measures could be refined by the trade in the following areas:-

- (a) actions would need to be taken to ensure that the Coupon Scheme as a Safety Net for Supply meets the expectations of local parents and gains their confidence and acceptance. To this end, there should be an increase in the number of pharmacies participating in the Scheme⁵, wider distribution of these pharmacies and reduced redemption lead time under the Scheme;
- (b) the trade should step up publicity on the Scheme for parents. Many parents at present are not familiar with the details of the Scheme or the use of the coupons. Some are not even aware of the implementation of the Scheme. As an on-going effort, suppliers should promote the Scheme through simple and easy-to-understand messages so as to encourage local parents to enroll early;
- (c) the number of participating retail outlets is grossly inadequate in certain districts (e.g. only four outlets in the

⁵ There are only 95 pharmacies participating in the Coupon Scheme at present. The Consultant considered that the ideal number should be 175.

North District where there was a serious shortage of powdered formula supply early this year). It has discouraged parents from participating in the Scheme. A member suggested the trade to explore the possibility of inviting major chain stores to join the Scheme; and

- (d) co-ordination and monitoring of the Improvement Measures would need to be enhanced. Since the three Improvement Measures other than the Coupon Scheme, namely, reservation of enough stock of powdered formula at the suppliers' level, increased delivery and boosted hotline service, are intertwined closely with the Scheme, suppliers should introduce an effective co-ordination and monitoring mechanism to ensure the overall effectiveness and sustainability of these Measures.

Whether the Amendment Regulation should be repealed

21. FHB concurs with the Consultant's assessment and the views of the Committee. Under the premise of ensuring stable and sufficient supply to meet local demand, the Government should not rush into repealing the provisions introduced by the Amendment Regulation. FHB considers that the following three aspects warrant particular attention:-

- (a) even though the trade did their utmost during the Stress Test, there were still various loopholes in implementing the Improvement Measures. This casts serious doubts on whether the Improvement Measures, especially the Coupon Scheme, can function well instantly and sustainably in a real-life crisis situation. Failure to do so might trigger the recurrence of serious powdered formula shortage experienced early this year;

- (b) the Stress Test was conducted in a regulated demand environment with the Amendment Regulation still in force. Repeal of the Amendment Regulation would certainly release the substantial repressed demand for powdered formula. Whether the Improvement Measures of the trade could cope with the situation gives much cause for concern; and
- (c) in the final analysis, the crux of the matter is that local parents do not have enough confidence in the Coupon Scheme as a Safety Net for Supply. This will result in panic buying in the event of sporadic and localised shortages of certain brands of powdered formula which may happen occasionally, or major shortage when non-local demand is high. In refining the Improvement Measures, the trade should therefore treat the needs of local parents as their primary consideration. By striking a balance between the operation of the trade and meeting local parents' expectations appropriately, the trade will engender the confidence of local parents in the Coupon Scheme.

22. In light of the above, the Government considers it premature to repeal the provisions introduced by the Amendment Regulation at this stage.

Way Forward

23. FHB suggests that the Committee should continue its operation to follow up on and monitor the improvements of powdered formula supply chain undertaken by the suppliers.

24. FHB also advises the trade to improve their supply chain management through the following channels and keep the Committee informed of the progress:-

- (a) improving considerably the Coupon Scheme on the recommendations of the Consultant and the Committee, including strengthening co-ordination and monitoring of the Scheme, expediting the processing of applications, increasing the number of participating pharmacies, considering inviting major chain stores to join the Scheme, and preventing abuse of the Scheme;
- (b) promoting the Scheme to eligible parents with a view to boosting the number of participants to a critical mass. This will ensure that the Scheme, once invoked, will function effectively from day one and serve its purpose as a Safety Net for Supply; and
- (c) suppliers must take more proactive steps to communicate with local parents to better understand their expectations on the key elements of the Coupon Scheme such as the number of participating pharmacies, their location and the three-working day delivery pledge, etc., and refine the relevant details of the Scheme as appropriate.

25. To facilitate the work of the Committee, FHB will engage a consultant to conduct regular surveys on the demand and supply of major brands of powdered formula across the territory, as well as whether there is any unusual fluctuation in prices. The relevant reports will be submitted to the Committee for further views.

26. Looking ahead, FHB will listen to the views of both the Committee and this Panel, and decide on the Government's position in

respect of the Amendment Regulation having regard to the progress on the improvements of powdered formula supply chain.

Advice Sought

27. Members are invited to advise on the aforesaid review and recommendations.

Food and Health Bureau
December 2013

**Imports, Re-exports and Retained Imports of Powdered Formula
(January 2011 to September 2013)**

Year	Month	Imports (a) (kg)	Re-exports (b) (kg)	Retained Imports (a)-(b) (kg)
2011	January	1 762 372	299 880	1 462 492
	February	1 610 396	188 863	1 421 533
	March	3 670 431	212 382	3 458 049
	April	2 911 656	372 767	2 538 889
	May	3 007 179	195 069	2 812 110
	June	2 872 459	248 977	2 623 482
	July	4 195 386	256 807	3 938 579
	August	3 423 406	268 174	3 155 232
	September	3 087 101	197 793	2 889 308
	October	2 267 535	278 158	1 989 377
	November	2 318 724	167 266	2 151 458
	December	2 096 074	181 540	1 914 534
2012	January	3 261 523	130 609	3 130 914
	February	3 726 536	258 902	3 467 634
	March	3 511 711	142 247	3 369 464
	April	4 074 856	161 251	3 913 605
	May	3 955 038	298 042	3 656 996
	June	3 259 768	157 493	3 102 275
	July	2 674 227	233 624	2 440 603
	August	3 884 954	213 604	3 671 350
	September	3 482 528	256 184	3 226 344
	October	4 189 875	213 819	3 976 056
	November	4 162 563	218 103	3 944 460
	December	4 127 174	292 346	3 834 828

Year	Month	Imports (a) (kg)	Re-exports (b) (kg)	Retained Imports (a)-(b) (kg)
2013	January	4 683 142	377 294	4 305 848
	February	2 760 311	455 679	2 304 632
	March	3 677 706	461 991	3 215 715
	April	4 340 899	601 200	3 739 699
	May	5 073 673	726 750	4 346 923
	June	4 944 289	583 821	4 360 468
	July	3 989 216	623 999	3 365 217
	August	3 226 642	658 374	2 568 268
	September	3 224 475	380 319	2 844 156

Source: Trade Analysis Section of the Census and Statistics Department

Growth Rate

	Imports (kg)	Re-exports (kg)	Retained Imports (kg)
March to September 2013 (a)	28 476 900	4 036 454	24 440 446
March to September 2012 (b)	24 843 082	1 462 445	23 380 637
Growth Rate (%) (a)-(b)/(b)	14.63%	176.01%	4.53%

	Imports (kg)	Re-exports (kg)	Retained Imports (kg)
March to September 2013 (c)	28 476 900	4 036 454	24 440 446
March to September 2011 (d)	23 167 618	1 751 969	21 415 649
Growth Rate (%) (c)-(d)/(d)	22.92%	130.40%	14.12%

**Membership and Terms of Reference of the
Committee on Supply Chain of Powdered Formula**

Membership

Chairman

Ms Caroline Mak

Chairman, Hong Kong Retail Management Association

Members

Mr Clarence Chung

President, Hong Kong Infant and Young Child Nutrition Association

Ms Ruthia Wong

General Manager, Mead Johnson Nutrition (Hong Kong) Limited

Ms Bonnie Cheang

Sales Director, FrieslandCampina (Hong Kong) Limited

Mr Lau Oi-kwok

Chairman, Hong Kong General Chamber of Pharmacy Limited

Ms Malina Ngai

Director, Group Operations, Investments, International Buying & Communications, A.S. Watson Group (HK) Limited

Mr Taky Woo

Director, Sales & Merchandise

The Dairy Farm Company Ltd (Mannings)

Ms Gilly Wong

Chief Executive, Consumer Council

Ms Anna Lin
Chief Executive, GS1 Hong Kong

Dr Kelvin Leung
CEO, Asia Pacific, DHL Global Forwarding

Prof Stephen Ng Wai-kwan
Adjunct Professor, Department of Industrial and Systems Engineering
The Hong Kong Polytechnic University

Prof Leo Sin Yat-ming
Professor, Department of Marketing
The Chinese University of Hong Kong

Ms Lam Yuk-ping
A parent from the Yuen Long District

Ms Siu Wing-yan
A parent from the North District

Terms of Reference

To study and recommend to the Government improvement measures in the supply chain of powdered formula in respect of:-

- (i) stock replenishment from places outside Hong Kong by reducing the time required;
- (ii) distribution and delivery of goods for supply at the retail and wholesale levels and replenishment of stock at retail outlets;
- (iii) hotlines for taking purchase orders and the mechanism for promptly increasing the number of hotlines and staffing level under exceptional circumstances;
- (iv) services for advance order of powdered formula at a substantial number of retail outlet in different regions throughout the territory; and
- (v) aspects considered relevant but not covered in (i) to (iv) above.

Details of the Stress Test

Coupon Scheme

The Consultant conducted the following tests on the Coupon Scheme (the Scheme):-

- (a) the Consultant used coupons to redeem powdered formula at 42 of the participating pharmacies of the Scheme, in ten districts in the territory (North, Yuen Long, Tuen Mun, Eastern, Kowloon City, Sai Kung, Sha Tin, Tsuen Wan, Tai Po and Yau Tsim Mong districts). A total of over 50 000 cans were involved. Different stress levels were applied in different districts. For districts with frequent shortages of supply, such as North, Yuen Long and Tuen Mun, etc., the highest stress level¹ was applied in testing resilience of the Scheme in those districts, including the lead time for redeeming powdered formula at pharmacies;
- (b) the Test did not involve physical purchase of powdered formula with real money since powdered formula purchased and broken off from the supply chain could not be returned to the suppliers for sale. Instead, “tokens” designed by the Consultant were used by pharmacies under test, with each “token” representing one can of powdered formula. To ensure the reliability of the Test, “tokens” were used only for the purpose of powdered formula redemption at pharmacies. Authentic powdered formula was involved in testing other segments of the supply chain, including the reserved stock

¹ The highest stress level means that all eligible local parents in that district used coupons to redeem powdered formula.

kept at suppliers' warehouses, and daily delivery of physical products to pharmacies by suppliers. During the Test, field workers were stationed at warehouses of various suppliers to verify order forms from pharmacies and delivery invoices of warehouses and to monitor how warehouses followed up on the orders from pharmacies and arranged for delivery. They also conducted physical counting of the quantity delivered for verification purpose and assessed whether the suppliers could handle the orders made by the pharmacies to cope with the large-quantity redemption by field workers;

- (c) field workers stationed at warehouses also observed how their staff members managed the stock reserved for the Scheme;
- (d) visits were made to the aforesaid 42 participating pharmacies to observe how they managed the powdered formula reserved for the Scheme; and
- (e) calls were made to hotlines to test the procedures and lead time for enrolling in the Scheme and applying for coupons, including whether the Scheme would be abused.

Hotline Capacity to Cope with a Large Number of Incoming Calls

2. The Stress Test also assessed the capacity of the suppliers' hotlines to cope with a huge number of incoming calls, including the time needed to gear up hotline service for taking purchase orders up to 50% when required as pledged by the suppliers, and whether the hotlines could handle the historical peak demand levels. The test standard was whether the suppliers could promptly answer incoming calls, or make return calls within 24 hours in response to unanswered ones.

3. Suppliers of four brands of powdered formula which either experienced relatively serious shortage early this year or have a high market share were tested, including Cow and Gate, Friso, Mead Johnson and Wyeth.

Frequent calls, totaling over 10 000, were made to their hotlines for consecutive days.

Purchase Channels for Parents' Club Members

Online Purchase

4. At present, only Cow & Gate, Friso and Mead Johnson provide web-based services for their Parents' Club members to purchase powdered formula online.

5. The Test aimed to assess whether these web-based platforms were able to handle a high volume of traffic. 600 purchase orders were placed during the Test, i.e. 200 for each supplier.

6. It is worth noting that the websites of Friso and Mead Johnson only allow customers to log in to register their requests for purchase which are followed up by hotline staff. Therefore, this is in effect hotline ordering and its effectiveness should be contingent upon the hotline capacity of these suppliers. Cow & Gate's website, however, allows customers to complete transaction online.

Test Purchases at Chain Stores and Pharmacies

7. Test purchases did not involve the physical purchase of powdered formula. The aim was to collect information on the supply and price of powdered formula at the market during the National Day Golden Week.

8. The tests were conducted in North, Yuen Long, Tuen Mun, Yau Tsim Mong and Eastern districts. Field workers conducted over 500 test purchases and over 200 price surveys for each of the seven major brands of powdered formula at the chain stores and pharmacies in these five districts.

Executive Summary

1 Introduction

1.1 The Food and Health Bureau (FHB) of the Government of the Hong Kong Special Administrative Region (the Government) commissioned BMT Asia Pacific Ltd. (the Consultant) in June 2013 to conduct a Consultancy Study (the Study) on the Supply Chain Improvement Measures (Improvement Measures) proposed by the trade to ensure stable and sufficient supply of powdered formula for local infants and young children aged under 36 months. Specifically, the Study was conducted to:

1.1.1 evaluate the effectiveness and sustainability of the Improvement Measures in a non-regulated demand environment; and

1.1.2 provide advice on how the Improvement Measures could be enhanced or refined.

1.2 The Study was conducted mainly through discussion with and information collected from stakeholders, desk-top study, simulation models, as well as a Stress Test conducted during and around the National Day Golden Week. The Study also covered the overall market and supply chain situation during the Stress Test.

1.3 As not all local parents may rely on the Coupon Scheme to purchase powdered formula, FHB had tasked the Consultant to evaluate, in addition to the Improvement Measures, the supply situation through other purchase channels, namely, online and telephone orders under the Parents' Clubs as well as walk-in purchases at pharmacies not participating in the Coupon Scheme and chain stores.

2 Findings

2.1 Reasons for Supply Shortage of Powdered Formula in Hong Kong

2.1.1 The Consultant found that the main causes for shortage in the supply of powdered formula in Hong Kong were:

- all powdered formula in the Hong Kong market is imported from abroad. The long order lead time, which could be as long as four months, has greatly limited suppliers' ability to meet fluctuating demand of the Hong Kong market in a timely manner.
- a substantial part of the Hong Kong market is made up of non-local demand from Mainland China which is difficult, if not impossible, to forecast.

2.2 Improvement Measures - Can it meet local demand as designed?

2.2.1 In response to the Government's appeal to improve supply chain of powdered formula, the trade¹ proposed the following Improvement Measures:

- reserving enough stock at the level of 1.65 million cans² for Hong Kong infants and young children aged under 36 months;
- increasing delivery up to daily to pharmacies when required;

¹ The Improvement Measures were proposed by the Hong Kong Infant and Young Child Nutrition Association (HKIYCNA) (membership of which includes Abbott, Cow and Gate, Friso, Mead Johnson, Nestle and Wyeth), Snow Brand and Hong Kong General Chamber of Pharmacy Limited (HKGCP).

² According to the statistics from the Census and Statistics Department, the number of Hong Kong-born infants and young children aged under 36 months is about 275 000 in 2013. As the Coupon Scheme allows redemption of a maximum of six cans of powdered formula by each eligible infant/young child per month, the reserved stock level is calculated as 1.65 million cans (i.e. 275 000 X 6).

- boosting the number of hotlines for taking purchase orders up to 50% when required; and
- establishing a “pre-order system” in 95 designated pharmacies as “Safety Net for Supply” for local infants and young children aged under 36 months (the Coupon Scheme)³.

2.2.2 According to the trade, the Improvement Measures seek to separate local demand from non-local demand by setting up a “dedicated supply chain” through the Coupon Scheme, thereby ensuring sufficient and stable supply to meet local demand.

2.2.3 It was considered that whether the Improvement Measures would be adequate to achieve their desired objectives and how effectively they were to be implemented in a sustainable manner would need to be put on trial in a Stress Test under certain real life scenarios of tremendous demand exerting pressure on all segments of the local supply chain.

2.2.4 One observation the Consultant made prior to the Stress Test was that the number of pharmacies (95) participating in the Coupon Scheme as proposed by the trade was too small to meet local parents’ demand effectively if there was a shortage. The Consultant considered that ideally 175 pharmacies⁴ need to participate in the Coupon Scheme to make it effective.

³ *Under the Coupon Scheme, parents of local infants and young children aged under 36 months can apply for coupons from local suppliers. Coupon holders can collect the powdered formula at their preferred designated pharmacies, and supply is guaranteed in three working days (excluding Saturdays and Public Holidays).*

⁴ *The Consultant arrived at the number of 175 on the basis of the following key assumptions, namely, the current population distribution of infants and young children aged under 36 months, all local demand to be satisfied through the Coupon Scheme and the pharmacies’ storage capacity.*

- 2.2.5 The Consultant, after critically observing and reviewing the performance of the supply chain during the Stress Test, considered there were areas where the supply chain had responded positively to the challenges posed while there were others where further improvements would be necessary.
- 2.2.6 To start with, the Consultant considered that the Improvement Measures are steps in the right direction, and the Coupon Scheme a sensible arrangement. The Stress Test revealed that the Improvement Measures were capable of being implemented as they were designed, as borne out by the fact that the suppliers:
- could generally keep the reserved stock of the pledged amount (i.e. 1.65 million cans).
 - were able to ensure sufficient and timely delivery to the designated pharmacies. The lead time between order placement and order delivery ranged from one to two working days.
 - had the overall ability to boost the hotline capacity to levels above the pledged one (i.e. 50% increase from normal capacity) which enabled them to handle the historical peak demand levels adequately.
- 2.2.7 Although the Consultant found the trade, overall speaking, capable of implementing the Improvement Measures as designed, the Consultant was of the view that the Improvement Measures were not entirely sufficient, and the implementation of some of them not adequately efficacious, as to guarantee supply effectively and sustainably to meet local demand in a non-regulated demand environment during a serious shortage situation.

Effectiveness of the Improvement Measures

2.2.8 Under the Stress Test situation when there was huge demand exerting pressure on all segments of the supply chain, the Coupon Scheme should have functioned as a “Safety Net for Supply”, which meant that the Improvement Measures set out in the first three bullets under paragraph 2.2.1 were in principle all put to test at the same time in the context of the Coupon Scheme. The assessment on the effectiveness and sustainability or otherwise of the Improvement Measures in paragraphs 2.2.9 to 2.2.14 below has to be seen in this light.

2.2.9 Number and location of designated pharmacies

- The Stress Test results confirmed the Consultant’s observation (see 2.2.4) that the number of pharmacies taking part in the Coupon Scheme as designed (i.e. 95) was inadequate to ensure stable and sufficient supply to local infants and young children. Since pharmacies’ participation in the Coupon Scheme was voluntary, the number of participating pharmacies in different districts was not planned and therefore had little regard to the actual demand in different districts. For example, there were only four designated pharmacies in North District which was estimated to have about 12 000 local children aged under 36 months, and there were only two pharmacies serving the whole Kwai Tsing district.
- Also due to the voluntary nature of the Scheme, the actual location of participating pharmacies in a particular district was not evenly spread out, meaning that some parents needed to travel a long way to redeem powdered formula.

2.2.10 Long lead-time for enrolling in the Coupon Scheme and redeeming powdered formula

- Local parents took four to five days to apply for and obtain coupons from the suppliers, and most (about 89%) would

need to wait an additional three working days or more before the powdered formula could finally be redeemed at the designated pharmacies.

- For some suppliers, the pledged 50% increase in hotline capacity (see paragraph 2.2.1) is far below that required to handle the historical peak level of calls that they have experienced. As Coupon Scheme enrolment is done through hotlines, hotline capacity is critical in ensuring the effectiveness of the Scheme. When the Scheme is in full-fledged operation, the number of calls related to the Scheme is expected to be substantial and beyond that which can be handled through the 50% increase in pledged hotline capacity. Whether the suppliers' hotlines can be geared up effectively at short notice in an unannounced situation to handle large number of calls in a sustainable manner is unclear.
- Most parents could not redeem powdered formula by using coupons at their first visits to the pharmacies. A high proportion of local parents (around 89%) had to pay a second visit to a pharmacy to redeem powdered formula. A significant proportion (around 11%) could not redeem powdered formula even within three working days as promised under the Scheme (see footnote 3).
- The long redemption lead time as revealed could be even longer in real life as the storage capacity of most pharmacies would limit their ability to hold sufficient stock for Coupon Scheme customers.
- The long lead time would reduce the attractiveness of the Coupon Scheme to local parents, thereby undermining its overall effectiveness. This is particularly so in view of the high expectation on the part of some local parents to be able to buy powdered formula right away when they walk into a retail outlet.

2.2.11 Prone to abuse

- One major area open to exploitation in the Coupon Scheme was multiple dipping (i.e. a single applicant making multiple

coupon applications to more than one supplier) as there was no information sharing or cross-checking mechanism amongst suppliers when handling applications. Other areas open to exploitation were the use of fake coupons, as well as one applicant applying to a single supplier for more than six coupons (the permitted maximum number) per month.

- Stress Test results revealed that the above-mentioned potential loopholes were capable of being exploited. The issue of multiple dipping was observed to be particularly problematic as no suppliers could identify such activities during the Test.
- The above problem would potentially cause the reserved stock of 1.65 million cans promised by the suppliers to become grossly inadequate to satisfy genuine local demand.

Sustainability of the Improvement Measures

2.2.12 Lack of Accountability and Sanction under the Scheme

- Pharmacies took part in the Coupon Scheme on a voluntary basis. They were not in a contractual relation with the suppliers in the Scheme. There was therefore no obligation for pharmacies to stick to the Scheme, nor were there legal ramifications for them to withdraw from it.
- This was evident from the fact that one pharmacy opted out from the Coupon Scheme shortly before the Stress Test commenced. Two others pulled out during the Stress Test. The fact that pharmacies could easily withdraw from the Scheme without sanction cast doubt on the sustainability of the Scheme.
- Besides, some pharmacies did not always keep the pledged amount of reserved stock during the test period and eight participating pharmacies were observed to offer prices to Coupon Scheme customers at a level higher than the recommended retail prices. Although this Study did

not cover how pharmacies set the prices of their powdered formula, this was nonetheless inconsistent with the design of the Coupon Scheme. During the Stress Test, the Consultant observed the selling price of powdered formula at the market in order to collect information on the supply and price of powdered formula at the market during the National Day Golden Week.

2.2.13 Absence of Code of Practice or Guideline for Warehouse Operators to Manage the Pledged Reserved Stock

- The majority of suppliers did not prepare any written Code of Practice (COP) or Guideline to help warehouse operators manage the reserved stock according to the design of the Improvement Measures. For example, there was no clear guideline on how the stock should be properly separated, maintained and replenished, as well as when and how such stock should be used to meet replenishment orders from retailers.
- Without a written COP or guideline, there would be a tendency for suppliers to use the reserved stock to meet demand outside the Coupon Scheme, particularly in situations involving heavy non-local demand for powdered formula. The sustainability of the Measures would therefore be called into question.

2.2.14 Communication

- Communication among suppliers, participating pharmacies, warehouses and parents was grossly inadequate.
- Different pharmacies had different understanding about details of the Coupon Scheme including some indicating that the stock reserved for the Scheme could be sold to other customers. Some pharmacies returned stubs to Coupon Scheme customers to facilitate subsequent collection of powdered formula but others failed to do so.
- Warehouses' understanding about the Coupon Scheme was also lacking. Warehouse operators were observed to

have adopted different practices in reserving and replenishing the stock for the Coupon Scheme. Their understanding about how such stock should be used also varied.

- It was also noticed during the Stress Test that the community, in particular local parents, had a very sketchy, if at all, understanding about the Coupon Scheme. The lack of a good understanding about the Coupon Scheme undermined the assurance that the Scheme was supposed to give local parents. Without such assurance, the likelihood of panic buying emerging during shortage of powdered formula is high. The newspaper advertisement placed by the Hong Kong Infant and Young Child Nutrition Association (HKIYCNA) on 4 October during the Stress Test about the introduction of the Coupon Scheme helped to a certain extent allay local parents' concern about the reported shortage of powdered formula. Had such communication with the public been done earlier, the concern about the shortage would have been less widespread.

Observations on online and telephone orders under Parents' Clubs

- 2.2.15 Suppliers operate Parents' Clubs to engage their potential and current customers through a membership scheme. Parents registered with the Parents' Clubs can purchase powdered formula either online or by telephone. Parents' Club members can purchase powdered formula through these channels by providing their membership information. Attempts were made during the Stress Test to assess the effectiveness of these channels.

2.2.16 Online purchase

- Cow and Gate, Friso and Mead Johnson provide web-based platforms for their Parents' Club members to purchase powdered formula online.
- Test results showed that the web-based platforms of Friso and Mead Johnson for online purchase were able to handle the high volume of traffic generated by the Test. It should however be noted that these websites only allow customers to log in to register their requests for purchase which are followed up by hotline staff. The web-based purchase of these websites was therefore in effect hotline ordering. The effectiveness of these hotlines is described in paragraph 2.2.6.
- Cow & Gate's website, however, allows customers to complete transaction online. Test results showed that the website experienced a significant failure rate with 99% of the attempted purchases uncompleted because of the excessively long waiting time probably due to a capacity problem in handling high volume of online traffic.

2.2.17 Telephone orders

- The suppliers' hotlines could handle these orders effectively.

Observations on walk-in purchase at pharmacies and chain stores

2.2.18 Walk-in purchases were made during the Stress Test at chain stores and pharmacies not participating in the Coupon Scheme in five districts for nine days during the Stress Test. The results showed varying degrees of out-of-stock situations for different brands in different districts in Hong Kong.

2.2.19 In terms of brands, Mead Johnson experienced a particularly high average out-of-stock rate of 29%. The average out-of-stock rate of Mead Johnson in the North District was as high as 47%. In terms of districts, the average out-of-stock rate in North District was the highest of the five tested districts at 24%, followed by 15% in both Tuen Mun and Eastern District. These observations corroborated the news report during the Stress Test that there was a serious out-of-stock situation for certain brands of powdered formula especially in the North District.

3 Assessment

- 3.1 Following up on paragraph 2.2.8, we should assess the Improvement Measures in the first three bullets in paragraph 2.2.1 in the context of the Coupon Scheme during the Stress Test. Seen in this light, while the 1.65 million cans reserved, the increased delivery and boosted hotline service all contributed to the generally credible performance of the supply chain during the Stress Test, the Coupon Scheme fell short of expectation in other equally, if not more, vital areas.
- 3.2 First, the Coupon Scheme is supposed to be a “Safety Net for Supply” and being such, it should only be invoked in deserving situations and once triggered, would have to function very effectively from day one to meet overwhelming demand. This is particularly so in situations involving health of infants and young children many of whom depend on powdered formula as their sole source of nutrients. Inability to meet demand quickly would engender confidence crisis and lead to panic buying. Public acceptance of and confidence in the Scheme, and enrolment of a substantial number of local parents so that they can obtain the powdered formula when the need arises, is the key to the success of the Scheme as a “Safety Net for Supply” but such confidence is lacking as evidenced from the Study.

- 3.3 The stakeholders involved in the Coupon Scheme were not limited to those on the supply side but also consumers on the demand side. The suppliers have not sufficiently engaged consumers about the Scheme before and during the Stress Test. Consumers have not enrolled in the Scheme as it is not clear to them under what circumstances the Coupon Scheme as a “Safety Net for Supply” would be triggered, and what they should do once it is triggered. For the Coupon Scheme to function effectively from day one, the ideal scenario would be for interested local parents to have already enrolled in the Scheme before the Stress Test. Noting that this may not be possible due to limitations in the circumstances (e.g. the Stress Test was only a simulated situation and suppliers might not wish to unnecessarily alert consumers), the long lead time both in enrolling and redeeming powdered formula described in paragraph 2.2.10 above certainly could not address the exigency of a heavy demand situation. This means that there is a need for the suppliers to start introducing the Coupon Scheme to consumers as early as possible, actively assess whether the Scheme aligns with their expectations and make proper adjustments as necessary to gain consumer acceptance and confidence. There was no well-publicised announcement (real or simulated) by the suppliers prior to the start of the Stress Test about the triggering of the Coupon Scheme, and which the participating pharmacies were⁵. The newspaper advertisement on 4 October in the middle of the Stress Test helped to make up for this, but in general the publicity on the Scheme was far from adequate.
- 3.4 Secondly, to a large extent the trade only worked hard on individual supply chains to meet the challenges posed by the Stress Test. There was room for better co-ordination and more concerted actions on the part of the trade to enhance

⁵ HKIYCNA, Snow Brand and HKGCPL announced the signing of the “Sufficient Supply Charter” in April 2013 and that they would introduce Improvement Measures on the supply chain of the powdered formula. A further announcement on the launch of the Coupon Scheme was made in June 2013.

communication with the public and among supply side stakeholders to address problems such as abuse of the Coupon Scheme and a lack of concrete understanding about how the Scheme works vertically (from suppliers to warehouses and then to pharmacies) and horizontally (among suppliers on the one hand and pharmacies on the other).

- 3.5 Although the trade was made aware of the Stress Test beforehand and had supposedly geared up their supply chain in preparation for the Test, serious out-of-stock situations as mentioned in paragraph 2.2.19 were observed for some major powdered formula brands in retail outlets (including chain stores and pharmacies not participating in the Coupon Scheme) during the Stress Test when the export control on powdered formula was in force. In light of this, coupled with the issues on the effectiveness and sustainability of the Improvement Measures identified from paragraph 2.2.8 onward, our assessment is that, unless the Improvement Measures are substantially enhanced along the recommendations in paragraph 4, steady and sufficient supply of powdered formula to meet local demand cannot be ensured.

4 Recommendations

In light of the above, the Consultant put forward the following recommendations to enhance the Coupon Scheme –

Suggestion 1 Engender local parents' confidence in the Coupon Scheme

- Local parents' confidence in the effectiveness and sustainability of the Coupon Scheme is the key to the success of the Scheme. If local parents are confident that the Coupon Scheme can guarantee stable and sufficient supply of powdered formula for their children, they will react more sensibly to sporadic and localised shortages of certain

brands of powdered formula which may happen occasionally, and even major shortage when non-local demand is high. This will help avoid panic buying.

- The following suggestions, if properly followed through, will help contribute to building up local parents' confidence in the Coupon Scheme.

Suggestion 2 Align the operation of the Coupon Scheme with parents' expectations

- Local parents' receptiveness to the Coupon Scheme is critical. In refining the Coupon Scheme, suppliers should engage parents effectively to ensure that the key elements of the Coupon Scheme such as the number of participating pharmacies, their location and the three-working day delivery pledge, etc, align with parents' expectations.

Suggestion 3 Suppliers should ensure that the Coupon Scheme is up and running on day one

- As pointed out in paragraph 3.2, suppliers should ensure that the Coupon Scheme, once invoked, is up and running on day one if it is to serve its purpose as a "Safety Net for Supply". Given the long lead time to handle applications under the Scheme, suppliers should strengthen publicity of the Coupon Scheme as an on-going effort so that local parents who are interested in the Scheme can enrol in good time with the six coupons (the permitted maximum number per month) issued for them to redeem at any time of their choosing. For that to happen, suppliers should improve communication with parents, designated pharmacies and warehouses to ensure that all stakeholders are familiar with the operation of the Coupon Scheme.

Suggestion 4 Increase the number of pharmacies

- As pointed out in paragraph 2.2.4, the Consultant considered that ideally 175 pharmacies need to participate in the Coupon Scheme to make it effective. Suppliers should therefore strive to increase the number of pharmacies, though the optimal number depends on how well the Scheme has been further enhanced to make it more receptive to local parents.

Suggestion 5 Build into the Coupon Scheme a sanction mechanism

- The Coupon Scheme has been designed to operate on a voluntary basis with no accountability on the part of the designated pharmacies or the suppliers. As designated pharmacies play a critical role in the effective implementation of the Coupon Scheme, a sanction mechanism has to be built into the Scheme to ensure its integrity and to prevent sudden withdrawal of pharmacies from the Scheme.

Suggestion 6 Written Code of Practice or Guideline on proper management of the reserved stock

- Suppliers should draw up a written COP or Guideline for warehouse operators. The document should clearly set out how the reserved stock should be managed in relation to the Coupon Scheme. Briefing and training should be provided for warehouse operators on a regular basis to ensure they are conversant with the COP or the Guideline.

Suggestion 7 Avoid abuse of the Coupon Scheme

- To avoid multiple dipping, a cross-checking mechanism subject to consent obtained from applicants for subscribing to the Coupon Scheme, and in compliance with the Personal Data (Privacy) Ordinance, should be set up amongst the seven major suppliers in handling applications under the Coupon Scheme.
- With regard to the fake coupon issue, coupons should be carefully designed to include anti-fraud elements. Appropriate training and guideline should be provided by suppliers for designated pharmacies. Further audit should be done at the suppliers' level to safeguard the authenticity of coupons.